BYJU'S EXAM PREP

Rajasthan Public Service Commission
Complete Guide for General Studies
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Rajasthan Specific General Knowledge

Ancient History (stone Age to 700 A.D.)

Earth's beginnings are often traced back 4.5 billion years, but human evolution only counts for alittle speck of its history. The Prehistoric Period—or when there was human life before records documented human activity—roughly dates from 2.5 million years ago to 1,200 B.C. it's generally categorized in three archaeological periods: the Stone Age , Bronze Age and Iron Age.

From the invention of tools made for hunting to advances in food production and agriculture to early samples of art and religion, this enormous time span—ending roughly 3,200 years ago (dates vary with the region)—was a period of great transformation.

Stone Age

1. Palaeolithic age

In the Paleolithic period (roughly **2.5 million years** ago to 10,000 B.C.), early humans lived in caves or simple huts or tepees and were hunters and gatherers. They used basic stone and bone tools, as well as crude stone axes, for hunting birds and wild animals.

Agriculture was not known to them hence the life was not properly settled. It has been evident that people survived on trees and fruits and lived in caves and hills.

1. Lower Paleolithic Age: It was mainly spread in Western Europe and Africa and early humans lived a nomadic lifestyle. No specific human group was the carrier of the Lower Paleolithic period, but many scholars believe that this era was a contribution of Neanderthal-like Palaenthropic men (Third stage of hominid evolution)

2. Middle Paleolithic Age was mainly associated with the early form of man, Neanderthal, whose remains are often found in caves with evidence of the use of fire. He got his name from the valley of Neander (Germany).

Neanderthal was a hunter of prehistoric time. The Middle Paleolithic man was a scavenger but few pieces of evidence of hunting and gathering were traced. The dead were painted before burial.

3. Upper Paleolithic Age was characterized by the appearance of new flint industries and Homo Sapiens (Modern type men) in world context. This was the last part of the Paleolithic Age which gave rise to the Upper Paleolithic culture.

This period covered approximately 1/10th time of the total Paleolithic Period but in a short span of time, primitive man made the greatest cultural progress. The culture has been referred as the Osteodontokeratic culture, i.e. tools made up of bone, teeth, and horns.

- Nagaur
- Didwana

2. Mesolithic Age

Bagor

- On the bank of river Kothari in Bhilwara District.
- A most ancient source of animal husbandry is found here.
- Tools are excavated in large numbers.
- Excavated by Virendranath Mishra.
- Biggest Mesolithic Site in India.

Tilwara

- On the bank of river Luni in Barmer district.
- Evidence of animal husbandry is found here.
- Excavated by Virendranath Mishra.

Chalcolithic Age

- The period is marked by the use of stone – metal; copper was the 1st metal to be used by man(End of the Neolithic period saw the use of metals)
- Technologically it applies to pre-harappans; in various parts of the country appeared after Harappan civilization.
- They were primarily rural communities residing in in hilly areas where rivers are available nearby
- They knew the art of copper smelting
- They used wheel turn black and red pots and were the first to use painted pottery
- Major sites- Southeastern Rajasthan, western part of Madhya Pradesh Western Maharashtra and southern and Eastern India; jorwe culture; kayatha culture etc.
- Some of the major chalcolithic cultures in Rajasthan are:

Ahar - Banas Culture (3000 to 1500 BC)

- Also known as Banas Culture/ tamravati and dhoolkot
- Lies mainly in the river valleys of Banas and its tributaries ; in South-Eastern Rajasthan
- About 90 sites of this culture have been discovered; important among them are gilund, Aahar, Ojiana, balathal, pachamta
- Provides the evidence of early farming rural communities who were contemporary to the Indus valley civilizations
- A small chopper made of thin sheet of copper is important antiquity of Ahar culture.
- The faience of the Harappan type is also noteworthy to an established relationship with other contemporary cultures.
- They were rural farming communities also engaged in livestock keeping and hunting
- Main crops were wheat, barley, Millets , Bajra and Jawar.
- Remakable refinement in Technology ; invention of first wheel industrial activities ; mass production of ceramics ;Metal Works and development of Bead industries
- Beads were made in in Shell, Bone, Ivory, semi-precious stones, steatite and Terracotta
- Evidences of terracotta bull; names as banasian bull
- Houses were square-shaped & large made up of stones; walls were made of mud\ mud bricks

- They carried on trade with Indus Valley Civilization people
- Evidence of rice has been noticed in the form of Impressions on potsherds
- Technology
- They mainly used copper metal and produced also used polished stone tools and used microliths as well
- Evidences of coins & seals dating back to period 3rd BC to 1st BC – a coin having a mark of Trishul on the side & greek god Apollo on the other

Gilund

- It is located in Rajsamand district and drained by three rivers that is Kothari Banaras and berach
- Excavation carried out under BB Lal in 1959 -60
- Use of burnt bricks on large scale
- Evidence of two distinct phases- early Ahar phase: 3000- 2000 BC and late Ahar phase: 2000 - 1700 BC
- First phase:

    -represent chalcolithic phase; evidence of few microliths along with copper objects, Evidence of clay lines ovens

    - Residential houses for made of mud brick and plastered with mud

    -Use of black and red ware pottery

    -Terracotta figurines search s bull with prominent hump and longhorns are noticeable

- Second phase :

    - Evidence of grey ware pottery

    -this site remain inhabited in 1st AD also; evidences Red ware pottery of Kushan period ,red polished ware pottery

Balathal

- it is located in Vallabh Nagar tehsil of Udaipur; on the banks of the Katar river
- discovered by VN Mishra in 1962- 63
- it also gives evidence of two phases- early chalcolithic period:3000 to 1500 BC and early historic period 5th to 3rd Century BC
- major findings- a skeleton belonging to period around 2000 BC has been found; gives the earliest evidence of leprosy in humans (till now)
- A huge mansion of 11 rooms, and a fort resembling structure has been found.
- Early chalcolithic phase:
    o marked by the presence of well plant structures
    o houses are single or multi-roomed having a square or rectangular shape
    o Locally available granite and gneiss rock were used for the Since loose stone was not available they were quarried from locally available rock
    o stone or mud-brick houses, made wheel thrown pottery copper implements

- o practiced dry field agriculture focused on barley and wheat
- o both stone and copper tools have been found which includes saddles, querns, hammer stone etc & copper objects like choppers, knives, chisels have also been found.

The site was abandoned for a long period of time; till the inhabitation was seen in early historic period.

- Early historic period:

  -large scale evidence of use of iron objects

  -houses were made up of mud & daub with the plastering of mud

  - Use of stone & mud for construction

Ojiana

- Maximum among all the excavated sites of Ahar culture.
- The first settlers were cultivators and preferred this hillock, skirted by low lying fertile land for settlement.
- The painted black-and-red ware is present in all the phases
- Marked change in shapes and firing technique in different phases; Paintings were executed both on the exterior as well as on the interior.
- Red ware remains the main ceramic type found in all the phases.
- Other evidence of pottery: black-slipped ware, burnished and unburnished- black ware, grey ware, tan ware and red slipped ware.
- Evidence of painting
- pots are decorated with incision, pinching and designs

- Phase 1:
  - o No evidence of complete house plan of found only but thin patches of mud floors above the rock and thick deposit of construction debris found;
  - o Their house were made of sun-dried mud-bricks.
  - o mud-brick did not prove very useful on the hill slop
- Phase 2
  - o Stones used for construction.
- Phase 3
  - o Wattle-and-daub houses mark a sharp decline.
  - o Thick layer of ash, burnt and baked pieces of mud-plaster and pot-holes capped with charcoal have been found
  - o Indicate a devastating fire that de-stored the last settlement on the site.

- Distinctive features:

  -large number of terracotta bulls, both naturalistic and stylized, with a great variety of shape and size

-White paintings on these bulls make them unparalleled in contemporary cultures in India. These white-painted bulls, termed as Ojiyana bulls which perhaps served as cult objects and as it appears white paintings was applied during the ceremony or rituals

-Another important discovery is the terracotta figurines of cow; Modelling of cow here was quite common;as is evidence from the variety of modelling. These were also perhaps the cult objects.

Pachamta

- Excavation began in 2015 under the project called the Mewar Plains archaeological assessment
- the area lies in the Udaipur district of Rajasthan; close to gilund
- Belongs to ahar banas culture
- Period- 3000 BC to 1700 BC
- Major findings- perforated jars, shell bangles, terracotta beads and semi-precious stones; lapis lazuli
- Evidences of early pottery & brick structures

Indus Valley Civilization

1. Kalibangan

- Located on the bank of river Ghaghhar in Hanumangarh District.
- Discovered by Amlanand Ghosh in 1953.
- Excavated by Brijvasilal in 1961.
- Evidence of ploughed field is found.
- Evidence of growing Barley and Mustard are found.
- Cylindrical seal of Mesopotamia is found here.
- Houses were made from Raw bricks (Kachhi Int).
- The drainage system was not properly developed.
- Evidence of Earthquake.

2. Sothi (Sothi Civilization)

- It was a rural civilization.
- Located in Ganganagar District.
- Situated on the plain of Ghaghhar and Chautang River.
- It is also called Kalibanga 1st.
- Historian mentioned it as the origin place of Harappan civilization.

Mahajanpada Period (600 BC to 300 BC)

- Marks the period of 2nd urbanisation in India
- Features:
    o Pottery- Northern black polished ware
    o Use of metal money
    o Presence of complex administrative systems with large standing armies

- o An efficient tax collection system
- o Use of iron ploughshare & rice transplantation
- o Consisted of both monarchies (such as Magadha, Avanti, anga etc) as well as republics

Mahajanapadas of Rajasthan

Matsya

- Capital: - Viratnagar
- Presently covers districts of Alwar, Bharatpur and Jaipur
- 1st mentioned in Rigveda. Here matysa has been mentioned as rival of famous king sudas
- Mentioned in shatpatha brahamana- matsya ruler dvaitvan performed ashvamedha yajna on banks of saraswati river;
- In gopath brahamana, they have been related to shalvas and in kaushitki Upanishad, they are related to kuru panchlas
- Mahabharat era- refers to a King Sahaja, who ruled over both the Chedis and the Matsyas, which implies that Matsya once formed a part of the Chedi kingdom. Pandavas spent their one year of exile in the Matsya region
- The Mahabharata refers to a King Sahaja, who ruled over both the Chedis and the Matsyas, which implies that Matsya once formed a part of the Chedi kingdom.
- Mentioned in Buddhist text anguttara nikaya; which gives a list of 16 mahajanapads, but its power had greatly dwindled and it was of little political importance by the time of Buddha

Shurasena (Brajmandala)

- Presently covers Braj region in Uttar Pradesh; - Alwar, Bharatpur, Dhaulpur and Karauli.

- Capital city- Mathura

- Strategic importance as a center of trade - due to its location at the intersection of the Gangetic Plain met with the routes to Malwa (central India) and the west coast

- According to the Buddhist text *Anguttara Nikaya*, it one of the 16 Mahajanapadas) in the 6th century BCE.
- Also mentioned in the Hindu epic poem, the Ramayana.
- The ancient Greek writers (e.g., Megasthenes) refer to the Sourasenoi and its cities, Methora and Cleisobra.
- The Buddhist texts refer to Avantiputta, the king of the Surasenas in the time of Maha Kachchana, one of the chief disciples of Gautama Buddha, who spread Buddhism in the Mathura region.
- Archaeological remains:
  - o The earliest period belonged to the Painted Grey Ware culture (1100-500 BCE)
  - o Northern Black Polished Ware culture (700-200 BCE).

Kuru

- Capital: - Indraprastha (Delhi)
- Represents a flourishing Iron Age in northern India
- Covers present day states of Delhi, Haryana, Punjab and some parts of western Uttar Pradesh,
- Developed into the first recorded state-level society in the Indian subcontinent.
- It became the dominant political and cultural centre of the middle Vedic Period during the reigns of Parikshit and Janamejaya
- Declined in importance during the late Vedic period & became weak by the Mahajanapada period in the 5th century BCE.
- There is a Jataka reference to king Dhananjaya, introduced as a prince from the race of Yudhishtra.
- In the 4th century BCE, Kautilya's Arthashastra also mentions the Kurus following the *Rajashabdopajivin*(king consul) constitution.

Some Other Janapada of Rajasthan

Shivi Janapada

- Excavated by D.R. Bhandarkar.
- It was republic situated between Chittorgarh and Udaipur district
- Capital: - Madhyamika (Present name Nagari)
- Remained under the rule of mevs for long; so also known as medpaat/praagvaat
- Mentioned in Panini's Ashtadyayi
- A large number of Buddhist stupas have also been found
- Inscriptional Evidences of Greek attack 2379 years back
- It is belived that Buddhists got constructed many structures here- devariya shiva temple, hathi bhata etc
- Hathi bhata site gives evidences of a Buddhist palace.

Arjunayana Janapada

- Present Alwar and Bharatpur District & some parts of Tonk
- They emerged as political power During Sunga Period.

Malav Janapad

- Present Jaipur and Tonk district.
- Capital: - Nagar (Tonk)
- Republican form of state
- Mentioned in Mahabhashya of Patanjali
- Evidence of punch marked coins made of silver have been found
- Statue of Mardini has been found
- Evidence of Sunga art - Maa Durga on lion

Yaudheyas

- Present Hanumangarh and Ganganagar district.

- It belongs to the period 1000 BC to 300 excavation work was done by dr Hannah Reid who belongs to Sweden
- Republican form of state
- Mentioned in Ashtadhyayi and Ganapatha of Panini.
- It was a confederation of 3 republics viz. Punjab with capital, bahu dhanyak situated in North Panchal and 3rd in Northern Rajasthan.
- Copper bronze coins of Yaudheyas have been found in bahu dhaynak
- Effect of Gandhara Art is seen on Terracotta
- Few punch-marked coins are also found some coins relating to the reign of Kanishk are also found and their power declined by the time of kushanas.
- Coins of Vasudev Chauhan the founder of Chauhan dynasty
- Evidence of the cultivation of rice and their staple diet

Shalvya

- It was situated in Alwar district.

Rajanya

- It was situated in Jodhpur and Bikaner region.

Mauryan Period

1. Bairat (Viratnagar)

- It was capital of Matsya Mahajanapada.
- It was a part of the Mauryan Empire.
- In 1837, Ashoka's Rock Edict was discovered by Capt. Burj from Bijak-ki-Pahadi.
- Evidence of the Buddhist stupa sites was found.
- In 634 A.D Huang Tsang visited Bairat.
- Sculptures, coins, pottery, seals and metal objects were found from the excavation.
- It was excavated by Daya Ram Sahni in 1936.
- According to Maan Sarovar inscription of 713 A.D., Maan Maurya was the ruler of Bairat. This inscription also mentions the name of 4 rulers. Maheshwar, Bhoj, Bhim and Maan.

Post Mauryan Period

- Greek ruler Menander attacked Rajasthan in 150 B.C.
- 16 Greek coins were found from Bairat.
- Coins were found from the Rang Mahal of Hanumangarh belonging to the Kushan period.
- The first Saka king in India was Maues who ruled in Gandhar and extended his power in northwest India.

Gupta Period

- According to Prayag Prashashthi (Allahabad Inscription), Samundragupta defeated many republican kingdoms.
- Samundra Gupta defeated Rudradaman II in 351 A.D. and captured southern Rajasthan.
- Vikramaditya Defeated last Shaka ruler and whole Rajasthan came under Gupta dynasty.
- Maximum Gupta period coins are found from Bayana (Bharatpur) belonging to Kumar Gupta.
- Baran(Rajasthan) inscription mention about Gupta.
- Durga Temple (Kota) and Shiv Temple (Chachanura) are the best examples of Gupta architecture.

Post Gupta Period (Huns, Vardhan and Gurjars)

- In 503 A.D, Toranmal of Hun Dynasty defeated Guptas and captured Rajasthan.
- Mihirkula built Shiva temple in Badauli.
- Later Mihikula was defeated by Narsingh Baladitya Gupta and Rajasthan was reoccupied by Guptas.
- The capital of Gurjar-Pratihar was Bhinmal.
- Chinese traveller Huang Tsang visited Bhinmal during his period.
- Brahmagupta belongs to Bhinmal.
- Gurjar Pratihar stopped Arab invasion from North West.

Evolution of Rajaputas

The appearance of rajputras as mercenary soldiers is proved as early as 7th century CE from the reference in Bakshali manuscript found in the North-West Frontier Province and subsequently from the Chachnama in Sindh in 8th century CE. In all bardic traditions of this period the Rajputs are depicted as horsemen. It may not be again ignored that the Pratiharas, one of the clansmen of the Rajputs of early medieval period felt pride to bear the title of hayapati, "the lord of horses". The military character of the rajputras is also reflected from Lekhpaddhati (a collection of the models of documents from Gujarat and Western Marwar region) which refers to assignment of land-grants to them in return for the performance of military services to the state or the overlord. Regarding the military obligation, one of the charters in the above-mentioned text provides us with the details that a rajputra applies to a ranaka (feudal chief representing the state) for a fief and when he is granted a village he is required not only to maintain law and order within it and collect revenues according to the old just practices but also to furnish 100 foot-soldiers and 20 cavalrymen for the service of his ranaka overlord at his headquarter. The fact that he was not allowed to make gifts of uncultivated land to temples and Brahmanas indicates his limited rights over the land granted to him, which he could sub-infeudate to others. Sometimes, the rajputras were also provided cash endowment for the supply of military soldiers in the service of the overlord. In addition to the military service rendered to his immediate overlord ranaka, the rajputras were also asked to pay the revenue in both cash and kind on the land assigned to him for cultivation. The amount of the revenue was strictly to be paid within the specified time limit. If the rajputra failed to do so, it was not to be paid without a fixed amount of interest imposed as late payment.

The origin of Rajputs is shrouded under mystery. Scholars are hardly in unison over their origin and a number of views are in currency pertaining to their origin.

Agnikula Origin of the Rajputs : A Myth Chand Bardai in his Prithvirajaraso (12th century) refers that the Chalukyas, Pratiharas, Paramaras and Chahamanas have their origin from the fire pit of Vashistha. According to Raso, Vishvamitra, Agastya, Vashistha and other sages began a great sacrifice at Mt. Abu.

Daityas (demons) interrupted it and then Vashistha created from the sacrificial pit three warriors in succession: the Padihara (Pratihara), the Solanki, and the Paramar

Other Views B. N. S. Yadav has traced the emergence of the early Rajput clans in Rajasthan and Gujarat during the period of political and social confusion and chaos which may be characterised by a declining economy following the invasions and settlements of the foreigners and collapse of the Gupta empire. The rising feudal tendencies, according to him, created favourable circumstances for the emergence of ruling landed aristocracy connected intimately with land. Attached to this background, he traced out the rise of the military clans of the Gurjaras, Guhilots, Chahamanas, Chapas etc. in northern India during 650-750 CE. However, their rise as independent ruling clans may be traced back to the 8th century, when Gurjara-Pratiharas as the first Rajput ruling clan established their hold over Kanauj and other regions in the northern India.

Political structure

Inter-state rivalries are represented by the struggle for supremacy. The king was the supreme head of the state and the conductor of the overall executive, judicial and military administration. To some extent, he was assisted in administrative matters by the queens, a number of whom figure in the records of different dynasties of our period. However, none of them is possibly found entrusted with any administrative post. Their involvement in administration is borne out indirectly in some of the land-grants. They are sometimes found granting land grants with the formal permission of the King. The ministerial council acted as a consultative body on all the important matters of polity. The office of the ministers was generally hereditary. The officials often adopted the feudal titles like rajaputra, ranaka, thakkura, samanta, mahasamanta, raut etc. in addition to the administrative posts like mahasandhivigrahika dutaka, maha-akshapatalika and others. The combining hereditary position and feudal ranks made these officials more powerful. The territorial administration consisted of the vishayas, bhuktis and other sub-divisions was usually fully governed by a class of power feudatories entitled usually as mandaleshvarars, mandalikas, samantas, thakkuras, ranakas, rajaputras etc. The administrative heads in villages apart from the village headman were the panchkulas (a body of five members in a village like panchayat), mahajanas and mahattaras (village elders). The official posts and designations of administrative officials at various levels were different under various Rajput clans.

Other Archeological Sites

Ganeshwar

- Located on the bank of river Kantali in Sikar District.

- It throws light on the origin development and spread of chalcolithic culture
- Based on radiocarbon dating and comparative studies by Archaeologist RC Agrawal
- Its inhabitation has been placed around 2800 BC
- Among the sites of copper culture, it is the most ancient
- In this way it can be called as the progenitor of chalcolithic cultures in India
- It revealed over 1000 copper objects including 400 arrowheads 50 fish hooks 60 flat cells and numerous other objects like harpoons, needles, bangles
- A large number of arrowheads shows the presence of a specialised craft industry
- The objects show a high percentage of pure copper content
- Evidence of vitrified clay lumps, charred wood and metallurgical slag show highly advanced metal processing skills

- With its microliths and other stone tools, Ganeshwar culture can be ascribed to the pre-Harappan period.
- Ganeshwar people were mainly engaged in agriculture and hunting; was primarily a rural culture
- They mainly supplied copper objects to Harappa.
- Although their principle craft was manufacture of copper objects but they were unable to urbanize on the lines of Indus Valley Civilisation.

Sunari, jhunjhunu

- Excavated in 1980-81
- Located on the banks of Kantali river in jhujnjhunu district

- Evidence of iron smelters; considered as the most ancient discovered in India yet
- Mechanism of temperature control is also found in the smelters
- Major findings include arrows front part of Spears iron balls and black polished ware which are considered to be of Mauryan age
- Evidence of beads of Terracotta and Stone bangles of shells and Terracotta images have been found
- Evidence of iron arrows science towards the practice of hunting along with agriculture
- Evidence of images of the mother goddess and agree for food storage has also been found
- It is opined that this region was inhabited by Vedic Aryans

- A distinct iron bowl is also found here; not discovered from any other site yet
- Evidence of Grey coloured vessels with designs
- Remains of the Mauryan, shunga & kushana period are also found in subsequent layers in good quantity

Kurada

- In Nagaur district.
- Called Town of Tools.

- Kurada (nagarur)
- The site was excavated around 1934
- a large number of copper objects have been found; 103 in number
- Known as a centre of copper objects
- Remains of Perforated jars have been found; Throws light on relations between Iran and this region

Iswaal

- In Udaipur district.
- Industrial Town (Because of presence of Iron Mine in Ancient time)

- Excavated by the archaeology department of Rajasthan Vidyapeeth Udaipur
- The site was inhabited from proto history to mediaeval Times
- 5 layers of stratification have been found

- Most interesting finding: iron smelters which had been in use for nearly two thousand years
- Evidence of iron ore, iron objects & pipes have been found
- The site was inhabited from proto history to mediaeval Times
- 5 layers of stratification have been found

Gardara

- In Bundi district.
- Rock paintings of ancient India are found.

Jodhpura

- It is found near Kotputli , Jaipur on the banks of Sabi river.
- Ochre coloured pottery site which is extremely rolled and fragile
- Jodhpur is the only site where habitational deposits of OCP has been found with the following features: well-made floors, mud huts hearth, terracotta human male figurines and bull figurines
- They lead a sedentary life similar to early farming communities
- Domestication of animals and cultivation of crops like rice and barley
- The site dates around 2800 BC
- Major findings:
- Iron smelters used to make iron out of iron ore
- Mauryan period - black pottery ware black Burnished polished ware

Medieval History Of Rajasthan (700 A.D. To 1700 A.D.)

Gurjar-Pratihar Of Bhinmal

1. Raja Nagbhatta I

- Founder of Bhinmal branch of Pratihar.
- Made a triple alliance with Bappa Rawal and Jaisimha to defeat Arabs.

2. Raja Watsaraj

- First Pratihar king to occupy Kannauj.
- He defeated Dharmapala of Gaud Dynasty and defeated by Dhruva of Rashtrakuta dynasty.

3. Raja Nagbhatta II

- Occupied Kannauj.
- Defeated Dharmapala in the battle of Mudgagiri.
- Defeated by Govinda of Rashtrakuta.

4. Raja Mihir Bhoj

- Defeated Devpala of Bengal.
- Arab traveller Suleiman visited his court in 851 A.D.

5. Raja Yashpal

- Last ruler of this dynasty.
- His rule came to an end due to emerging of Gazni power.

Guhil Dynasty Of Mewar

1. Guhil

- In 566 A.D. Guhil established this dynasty.
- He established independent city Nagda (Udaipur).

2. Bappa Rawal

- Name: - Kaalbhoj
- In 734, he defeated Maan Mori and took Chittorgarh under his control and made Nagada his capital.
- At first, started gold coin in Rajasthan.
- He built Eklingji Temple in Udaipur.

3. Allat (943 A.D. to 953 A.D.)

- Name: - Alu Rawal
- Built Varah Temple of Ahar.
- Married Hun Princess Hariyadevi.
- Established bureaucracy in Mewar.

4. Mathan Singh (1191-1211 A.D.)

- Fought in the battle of Panipat with Prithviraj Chauhan III.

5. Jaitra Singh (1213-1253 A.D.)

- **Fought battle of Bhutala** and defeated the army of Iltutmish.
- He made Chittor his new capital.
- His reign is called Golden Age of Medieval Mewar.

6. Ratan Singh (1302-1303 A.D.)

- AllauddinKhilji defeated him and he was killed.
- After his death, his wife Padmavati committed Jauhar.

- This was the biggest Saka of Chittor and first Saka of Rajasthan.
- Gora and Badal, two commanders showed courage during the battle.
- In 1540 A.D. Malik Mohammed Jayasi wrote Padmavat in which he mentioned the beauty of Queen Padmavati.

Sisodiya Dynasty Of Mewar

1. Rana Hammir (1326-1364)

- Fought Battle of Sugoli with Mohammad Bin Tughlaq.
- Built the Annapurna Mata Temple of Chittorgarh Fort.

2. Khetri Singh (1364-82)

- He captured Zafar Khan, Sultan of Gujarat.
- Son of Hammir

3. Rana Lakha (1382-1421)

- He married Hansa Bai, princess of Marwar.
- His son Rana Choonda took the oath that not to come on the throne. Thus he is also called **Bhishmapitamah of Mewar**.

4. Rana Mokul Singh (1421-33)

- He reconstructed Samidheshwar Temple in Chittoor.
- In 1433, he was murdered in Zilwada.

5. Rana Kumha (1433-68)

- Defeated Mahmud Khilji, Sultan of Malwa, in battle of Sarangpur (Mandalgarh).
- He erected Vijay Stambh (a sign of Rajasthan police) after this victory which is 37 meters tall and 10 meter in width having 9 floors.
- It is compared with Qutub Minar.
- Rana Kumbha defeated the joint army of Mahmud Khilji and Qutubuddin of Gujarat in 1456.
- Important fort built by Kumbha- (1) Kumbhalgarh (2) Achalgarh (3) Basantgarh
- Important books are written by Kumbha- (1) Rasik Priya (2) Sudha Prabhandh (3) Sangeet Raj (5 part) (6) Sangeet Sudha (7) Kamaraj Ratisaar
- He gave patronage to many scholars in his court. Important are- (a) Mandan (b) Kanh Vyas (c) Ramabai (d) Muni Sundar Suri etc.
- He was a musician as well.
- He was killed by his son Ooda Singh or Udai Singh.

6. Rana Udai Singh (1468-73)

- He killed his father Rana Kumbha and came to the throne.

- Ramuel, his brother, defeated him and ascended the throne.

7. Rana Raimal (1473-1508)

- He constructed Adhbut Shiva Temple in Chittor Fort.

8. Rana Sanga (1508-1528)

- In 1517 and 1519, he fought the battle of Khatoli and Bari respectively with Ibrahim Lodhi and defeated him in both the battles.
- In 1519, he defeated MehmudKhilji in the battle of Gagron.
- In 1527, he was defeated in the battle of Khanwa by Babur.
- The important king who took part in the battle of Khanwa (Maldev- Marwar, Medini Rai-Chanderi, Mahmood Lodhi (small brother of Ibrahim lodhi)
- He died at Kalpi (M.P.)

9. Maharana Udai Singh (1537-1572)

- Saved by Panna Dhai in the childhood
- In 1557, fought the battle of Harmada with Haji Khan Pathan who was governor of Ajmer.
- In 1559, he founded Udaipur and constructed Udai Sagar Lake.
- In 1568 Akbar attacked and Jaimal and Fatta was killed

10. Maharana Pratap (1572-1597)

- In 1576, He fought the battle of Haldighati with Akbar and was defeated by Akbar. Akbar deputed Man Singh against Maharana Pratap.
  Thermopylae of Rajasthan – James Tod
- Kumbhalgarh war (1577,1578, 1579) between (Sahbaz v/s Pratap)
- His horse's name was Chetak who was injured in this battle and later died. Chetak's cremation is in Balicha Village.
- In 1582, he fought Battle of Diver.
- In 1597. He died in Chawand.

11. Amar Singh (1597-1620)
12. Karan Singh (1620-1628)

- He started construction of Jagmandir Palace of Udaipur.

13. Jagjit Singh I (1628-52)

- He finished the construction of Jagmandir Palace of Udaipur.
- He constructed Jagdish Temple of Udaipur.

14. Raj Singh (1652-80)

- He protested against Jajiya Tax by Aurangzeb
- Supported Aurangzeb in the fight of Successor

15. Jai Singh (1680-98)

- He built Jaisamand Lake.

16. Amarsingh II (1698-1710)

Rathod Dynasty Of Marwar

1. Rao Siyaji

- He founded this dynasty.
- In 1273, he died protecting cows in Bithu village.

2. Rao Dhuhad
3. Rao Chunda

- The real founder of Rathod dynasty in Mewar.
- He was killed in a battle with Salim Shah of Multan.

4. Rao Jodha (1438-89)

- He established city Jodhpur.
- He constructed Mehrgarh Fort.
- His 5th son Bika established Bikaner.

5. Rao Satal (1489-1492)
6. Rao Suja (1492-1515)
7. Rao Bairam Singh (1515-1515)
8. Rao Ganga (1515-1532)
9. Rao Maldeo (1532-1562)

- He killed his father and ascended the throne.
- In 1541, he defeated Jaitasi of Bikaner.
- In 1543, he was defeated by Sher Shah Suri in Battle of Sumail.

10. Rao Chandra Sen (1562-1565)

- He was defeated by the Mughal but still denied to form an alliance with them.
- He is called Pratap of Marwar.

11. Raja Udai Singh (1583-1595)

- He established a marital relation with Mughals.

- His daughter Mani Bai was married to Jahangir.

12. Sawai Raja Suraj-Mal (1595-1619)
13. Maharaja Gaj Singh (1619-1638)
14. Maharaja Jaswant Singh (1638-1678)

- He wrote BhasaBhusan, Anand Vilas, Prabodh Chandrodaya and AparokshaSidhanta Saar.

15. Raja Rai Singh (1659-1659)
16. Maharaja Ajit Singh (1679-1724)

Rathod Of Bikaner

1. Rao Bika (1465-1504)

- In 1465, he established Rathod dynasty in Bikaner region.
- In 1488, established Bikaner.

2. Rao Naroji (1504-05)
3. Rao Lunkaran (1505-1526)
4. Rao Jait Singh (1526-1542)
5. Rao Kalyan Singh (1542-1571)
6. Raja Raj Singh I (1571-1611)

- Akbar gave 51 Pargana to him.
- He constructed Junagadh Fort in Bikaner.
- He wrote 'Rai Singh Mahotsav'.

7. Maharaja Rao Anup Singh (1669-1698)

- He wrote 'Anup Vivek', 'Kaam Prabodh',' ShraddhPrayog Chintamani', 'Anupodaya.'

8. Maharaja Rao Sarup Singh (1698-1700)
9. Maharaja Sir Rao Sadul Singh (1943-1950)

- He was the last ruler of Bikaner and merged in present Rajasthan state and signed the instrument of accession to the dominion of India.

Kachhwaha Of Amber

1. Prithviraj

- He was feudal of Rana Sanga, therefore, he fought Battle with Babur in the Battle of Khanwa.

2. Bharmal

- The accepted sovereignty of Akbar.
- The first king of Rajasthan to accept sovereignty and establish a marital relation with Mughal.

3. Bhagwantdas

- Suppress Mirza revolt in Sarnal Battle. Thus he was given Nagada and Parcham by Akbar as the award.
- His daughter was married to Jahangir.

4. Maan Singh

- He was made Subedar of Kabul, Bihar and Bengal.
- He established Maanpur city in Bihar.
- He established Akbarnagar city in Bengal.
- He began the construction of forts of Amber.
- He constructed Radha Govind Temple in Vrindavan.

5. Mirza Raja Jaisingh

- Ruled for the maximum period in Jaipur (46 Years).
- Shah Jahan titled him 'Mirza Raja'.
- On 11 June 1665, Treaty of Purandar was signed between Shivaji and Jaisingh.
- He constructed Jaigarh Fort in Jaipur.

6. Sawai Jai Singh

- He saw the reign of seven Mughal Badshah.
- He changed the name of Amber to Islamabad.
- His Purohit was 'PundarikRatnagar'.

7. Ishwari Singh

- In 1747, he defeated Madho Singh in the Battle of Rajmahal on the bank of river Banas.
- In 1748, he was defeated by Madho Singh in the Battle of Bagaru.
- After this defeat, he committed suicide.

Chauhan Dynasty

1. Vasudev

- In 551 A.D. he established Chauhan dynasty.
- According to Bijoliya inscription, he constructed Sambhar lake.

2. Ajayraj

- In 1113 he established Ajmer city.

- He built Ajmer fort.

3. Arnoraj

- He constructed Anasagar Lake in Ajmer.
- He constructed Varah Temple in Pushkar.

4. Vigraharaj IV

- He took away Delhi from Tomar dynasty.
- He constructed a school later QutubuddinAibak built Dhai Din Ka Jhopda in place of this school.

5. Prithviraj III

- In 1182, he defeated Chandel ruler Parmarardidev in Battle of Mahoba.
- In 1191, he defeated Mohammad Ghori in First Battle of Panipat.
- In 1192, he was defeated by Mohammad Ghori in Second Battle of Panipat.
- Moinuddin Chisti came to India during his reign.
- He constructed Pithauragarh near Delhi.
- Kaimash and Bhuvanmalla were his two ministers.

Chauhan Of Ranthambore

- After the death of Prithviraj III, his son Govindraj established his rule in Ranthambore.

1. Hammir Dev

- In 1299, he defeated the army of Alauddin Khilji led by Ulugh Khan and Nusrat Khan.
- Nusrat Khan was killed in this battle.
- After that Allauddin Khilji raids the Ranthambore fort with his army and defeats them.
- In 1301, the first Siege of Ranthambore took place. This was the first Siege of Rajasthan.
- He fought 17 battle in his life in which he only lost the last one.

Chauhan of Jalore

- Founder of this branch of Chauhan was Kirtipal.
- In inscriptions, Jalore is mentioned as Jabalipur.
- Allauddin Khilji changed the name of Siwana to Khairabad.

Hada Chauhan Of Bundi

- In 1241, Deva Hada defeated Jait Meena and occupied Bundi.
- In 1354, Barsingh constructed Taragarh Fort of Bundi.
- Rao Surjan constructed Ranchhod Temple in Dwarika.
- Budhhasingh wrote 'Nehtarang'.
- Maratha interference took place during the reign of Budhhasingh.

Hada Chauhan Of Kota

- In 1631, Madho Singh founded this state.
- Mukund Singh constructed AbaliMeeni Palace in Kota.
- Bhimsingh constructed Sawariyaji Temple in Baran.

Parmar of Abu

- Parmar means Killer of the enemies.
- The founder was Dhumraj but the dynasty begins from Utpalraj.
- In 1031, Vimalshah constructed a wonderful temple of Adinatha in Abu.
- Dharavarsha wrote a drama named 'Parth-Parakrama-Vyayoga' and established Prahaladanpur (Palanpur).
- During the reign of Somsingh, son of Dharavarsha, Tejpal constructed Neminath Temple in Delwara village.

Major Dynasties of Rajasthan

MEWAR

- The kingdom of Mewar includes present day districts of Chittorgarh, Rajsamand, Udaipur, Dungarpur, Banswara.
- The region was originally called Medhpaat, Pragpaat and Shivi Janpad.
- The Mewar's ruling dynasty in Rajputana came originally from the Guhilot clan.

Guhils of Mewar

- Guhil dynasty establishe in 566 C.E.
- 24 brances of Guhil dynasty.
- Guhil Rulers are Suryavanshi Hindu.
1. Bappa Rawal
   - Born as Kalbhoj
   - Disciple of Harit Saint.
   - Defeated Maan Mori and laid foundation of Guhilot Dynasty rule in mewar
   - Capital – Nagda
   - Construct Eklingnath ji temple

2. Allat (943 – 953)
   - Other Name Aloo Rawal
   - Allat establishes a new capital at ancient Ahar.
   - Capital – Ahad
   - Started Bureaucracy in mewar
3. Jaitra Singh (1213 – 1253)
   - Golden era of mewar

- Battle of bhutala fought between Jaitra Singh and ltutmish of Delhi.
- Capital – Chittorgarh.

4. Ratan Singh (1302 – 1303)
   - Last ruler of Guhil Dynasty.
   - 1303 – 1st Jauhar of Chittor:
   - Ala ud din Khilji Captured Chittorgarh
   - Chittorgarh renamed as Khijrabad
   - After some time chittorgarh look after by Maldev Songara.

Sisodia of Mewar

1. Rana Hammir (1326-64)
   - Progenitor (Shuruwat karne wala) of the Sisodia clan
   - Built the Annapoorna Mata temple, located in the Chittorgarh Fort
   - Alauddin Khilji defeated Rana Ratan Singh (Padmini ne Jaauhar kiya) and transferred administration of new territories (including chitter) to Maldeo, ruler of Jalore.
   - Maldeo , married his widowed daughter Songari with Rana Hammir.
   - Hammir organized overthrow of Maldeo and established Mewar again in 1326.

2. Rana Lakha (1382- 1421)
   - Defeated the imperial army of Delhi at Badnor
   - Had two Sons – Elder – Rana Choonda – who took oath not to claim throne of mewar – in the exchange of his father's marriage to Rani Hansa Bai.
   - In compensation – his symbol Lance (Bhala) was superadded to autograph of prince in all grants to vassals. Hence, Lance of Saloombra still precedes monogram of Rana.
   - In line with promise, Rana Mokul (Son from Hansa Bai) succeeded throne.

3. Mokul/Mokal Singh (1421-1433)
   - After Rana Lakha, as Rana Mokul was minor, Rana Choonda started taking care of administration.
   - But Rani Hansa bai, did not like and asked Rana choonda to leave. He left.
   - Rani seek help of Brother Ranmal of Marwar but later understood intentions of Ranmal.
   - Rani called back Choonda, who came in and rescued Mokul Singh.

5. Rana Kumbha (1433-68)
   - In 1433, defeated Sultan of Malwa, Mahmud Khilji, in Battle of Mandalgarh and Banas.
   - Erected Vijay Stambh (victory tower) – 37 meter/9 floors.
   - Erected 32 Forts in defense of Mewar. Including highest fort in Rajasthan (MRL 1075m) – Kumbhalgarh
   - Additionally he also costructed, the Ranakpur Trailokya-dipaka Jain temple with its adornments, the Kumbhasvami and Adivarsha temples of Chittor and the Shantinatha Jain temple.
   - Credited with writing the Samgita-raja, the Rasika-priya commentary on the Gitagovinda, the Sudaprabandha, and the Kamaraja-ratisara.
   - Sangita-ratnakara and Sangita-krama-dipaka (two books on music by Rana Kumbha.

- During his reign, scholar Atri and his son Mahesa wrote the prashasti (edict) of the Chittor Kirti-stambha and Kahana Vyasa wrote the Ekalinga-mahamatya.
- Rana kumbha successfully defended Mewar and expanded his territory at a time when he was surrounded by enemies like Mahmud Khilji of Malwa, Qutbuddin of Gujrat, Shams Khan of Nagaur and Rao Jodha of Marwar.

6. Rana Raimal (1473- 1508)
   - Other Son – Raimal finally succeeded Khumbha
   - By marrying Sringardevi (daughter of Rao Jodha), Raimal ended the conflict with the Rathores.

7. Rana Sanga (Sangram Singh) (1508-1528)
   - Battle of Gagron: defeated Sultan of Malwa
   - Battles of Idgar: 3 battles: fought between Bhar Mal & Rae Mal two princes of Idar, Rana Sanga supported Raimal.
   - Battle of Khatoli & Dholpur: Sanga defeated Ibrahim Lodhi
   - Gujarat Invasion: laid seize at Ahmadnagar (Himmatnagar) – defeated Sultan.
   - Battle of Khanwa: was defeated by Babur.

8. Vikramaditya Singh (1531–1536)
   - During his reign, Sultan of Gujarat Bahadur Shah sacked Chittor in 1534, Udai Singh was sent to Bundi for safety.
   - Rana Sanga's wife Karnavati –send Rakhi to Humayun.
   - Second Jauhar of Chittor.

9. Udai Singh II (1540–1572)
   - 1540, he was crowned in Kumbhalgarh by the nobles of Mewar.
   - Maharana Pratap born in same year (9th May-1540)
   - In 1562, he gave refuge to Baz Bahadur of Malwa. Using this as a pretext, Akbar attacked Mewar in October 1563.
   - Udai Singh left to Gogunda.
   - Rao Jaimal & Patta – fought with Valor – even Akbar impressed – statute erected at Fatehpur Sikri
   - Jauhar- 3rd Jauhar of chittor (1568)
   - Founded city of Udaipur. This became the capital of Mewar from here on.

10. Maharana Pratap(9th May 1540- 29 Jan 1597)
    - Pratap Jayanti, is celebrated annually on the 3rd day of the Jyestha Shukla.
    - 1576-Akbar deputed Man Singh I against Maharana Pratap – 18 June 1576- Battle of Haldighati – Pratap defeated.
    - Slowly, Pratap recovered many of the territories , made Chavand
    - Tod, the famous British antiquarian, gave Pratap the title of 'Leonidas of Rajasthan'.

11. Amar Singh I (1597-1620)
    - Born 1559, same year as Udaipur foundation laid by Udai Singh.
    - Amar Singh fought with Jehangir

- Battle of Dewar – showed great bravery – killed commander sultan.
- Finally, made peace with Jehangir – treaty negotiated by Shah Jehan – Amar Singh was relieved of making in person presence to Mughal court.

12. Jagat Singh I (1628–1652)
- Made jag Mandir in Lake Pichola
- Made Jagganath rai temple.

13. Raj Singh I (1652–1680)
- Made Shrinath temple
- Made Dwarkadheesh temple
- Made Amba mata temle.

14. Amar Singh – II
- Debari accord – Amarsingh – II (Mewar), Ajit Singh (Marwar) and Sawai Jaisingh (Amer)

15. Sangram Singh – II
- Made Vaidhnath Temple in seesarma.

16. Jagat Singh – II
- Hurda Conference – 17 July 1734
- Constructed Jagat niwas mahal palace.

17. Bhim Singh – II
- 13 January 1818 treaty with British.

Rathores of Jodhpur

- Rao Chanda/Chundarji secured & found kingdom of Marwar.
- Rao Chanda, is killed in battle by Salim Shah of Multan. The king's son, Kanha, subsequently has to fight to retain his throne when his brother Rao Ranmal. Ultimately, Ranmal succeeds.

1. Rao Jodha(1438 – 1489)
- Son of Ranmal becomes first fully independent king of Jodhpur,
- 1459- Laid foundation of modern city of Jodhpur
- Reconquers Mandore from the Sisodiyas of Mewar (Rana Kumbha).
- Began Construction of Mehrangarh fort.
- Jodha's son Rao Bika – founded the kingdom of Bikaner
-
2. Rao Maldeo (1532-1562)
- Maldeo refused to ally with either the Sur Empire or the Mughal Empire after Humayun regained control of north India in 1555.

- Muslim historian Ferishta calls him as the "most Potent Ruler of Hindustan"
- In 1543, Battle of Sammel: with Sher Shah Suri – Maldeo lost.
- In 1562, lost Merta and Ajmer to Emperor Akbar, and forced to send two of his sons as hostages to the Imperial Court.

3. Rao Chandra Sen (1562-1565)
   - 3rd Son but Maldeo named him successor.
   - Elder brother Udai Singh, sided with Akbar – Battle of Merta 1562 – Lost his territories in wars with the Mughals.
   - He was defeated but refused to form any alliance with Mughals.
   - He continued his struggle until his death in 1581 at Pali, after which, Marwar submitted to Mughal rule in 1583

4. Raja Udai Singh (Mota Raja) (1583-1595)
   - Restored by the Mughals with the title 'Raja' as a vassal

5. Maharaja Jaswant Singh (1638-1678)
   - Shah Jahan made him ruler, in line with his wishes.
   - Author of "Siddhant-bodh", "Anand Vilas" and "Bhasa-bhusan"
   - Aurangzeb revolted against Shah Jahan, Jaswant Singh sided with Shah Jahan – Battle of Dharmatpur. Aurangzeb won – named place of Victory- Fatehabad
   - His son Prithvi Raj Singh – was murdered by Aurangzeb through poisonous robe.

6. Raja Rai Singh (1659-1659)
   - Son of Raja Amar Singh

7. Maharaja Ajit Singh (1679-1724)
   - When Jaswant Singh died, he left no male heir. But 2 of his wives were pregnant. AJit was born later.
   - However, Aurangzeb appointed Indra Singh as ruler.
   - Durgadas went to Auranzeb to recognize Ajit singh as successor but Aurangzeb kept condition of converting Ajit to muslim. Durga das disagreed.
   - For 20 years, Marwar remained under direct Mughal rule, Durga das continued stuggle.
   - When Aurangzeb died 1707, Durga das seized occasion, Ajit Singh regained Jodhpur.

8. Maharaja Abhai Singh (1724-1749)
   - Battle of Ahmedabad against Sarbaland – won
   - Battle of Gangwan against Amber.

9. Maharaja Ram Singh (1749-1751)-(1753-1772)
   - Was defeated in battle by his uncle Bakht Singh at Luniawas, 27 November 1750 and was expelled from Jodhpur and sought refuge in Jaipur.

Rathores of Bikaner
1. Rao Bika(Beeka) (1465-1504)
   - Founder of kingdom of Bikaner

- Branch of Rathores – Bika rathores.
- Married daughter of Bhati (jaisalmer)

2. Rao Naroji (1504-1505)
3. Rao Lunkaran (1505-26)

4. Rao Jait Singh (1526-42)
   - Killed fighting Marwar forces under Rao Maldeo.

5. Rao Kalyan Singh (1542-71)
   - Marwar forces Kalyan Singh to flee but he takes help of Sher Shah Suri and defeats Rao Maldeo Resists attack by Mughal, Akbar till 1570, when Akbar gains submission.

6. Raja Raj(Rae) Singh I (1571-1611)
   - He and Akbar, each married a princess of Jaisalmer.
7. Rai Dalpat Singh Dalip (1612-1613)
8. Rai Surat Singh Bhuratiya (1613-1631)
9. Rao Karan Singh Jangalpat Badhshah (1631-1667)
   - Deposed by Aurangzeb
10. Maharaja Rao Anup Singh (1669-1698)
    - 1st to be granted the title 'Maharaja' by Aurangzeb Served in the Deccan campaign at Salher in 1672, Bijapur in 1675, and the siege of Golconda in 1687.
    - He was administrator of Aurangabad 1677-1678
11. Maharaja Rao Sarup Singh (1698-1700)
12. Maharaja Rao Sujan Singh (1700-1735)
13. Maharaja Rao Zorawar Singh (1735-1746)
14. Maharaja Rao Gaj Singh (1746-1787)
    - First of his line granted permission to mint his own coinage by Emperor Alamgir II

15. Maharaja Rao Rai Singh II Raj Singh (1787-1787)
16. Maharaja Rao Surat Singh (1787-1828)
    - Entered the protection of the East India Company with a subsidiary alliance in 1818.

17. Maharaja Rao Ratan Singh (1828-51)
18. Maharaja Rao Sardar Singh (1851-72)
    - Provided support to British against Indian mutiny of 1857

19. Maharaja Rao Dungar Singh (1872-1887)
    - First to introduce electricity to Rajasthan.
    - He also sets up a police force, a hospital and a modern administrative system.

20. Maharaja Sir Rao Ganga Singh (1887-1943)
    - 1st World war in France & Flanders 1914-15
    - Signed the Treaty of Versailles on behalf of India on 28 June 1919

21. Maharaja Sir Rao Sardul Singh (1943-1950)
    - Signed the instrument of accession to the Dominion of India on 7 August 1947.
    - Merged his state into the present state of Rajasthan, India on 30 March 1949.

The Chauhan Dynasty

In course of time Chauhans formed ruling dynasties at various places. Major Chauhan dynasties include:
1. Chauhans of Shakambhari
2. Chauhans of Ranthambore
3. Chauhans of Jalore

Apart from these, there are other ruling dynasties that claim Chauhan descent including:
1. Hadas of Hadoti

1. Vasu-deva (c. 6th century CE)
   - Considered as founder of Shakambhari branch of Chauhans around 551 CE
   - According to a mythical account in Prithviraja Vijaya, he received the Sambhar Salt Lake as a gift from a vidyadhara (a supernatural being).

2. Govinda-raja I (c. 809-836 CE)
   - Constructed Harshnath Temple in Sikar

3. Ajaya-raja II (c. 1110-1135 CE),
   - Moved the capital to Ajayameru (Ajmer)

4. Arno-raja (c. 1135-1150 CE)
   - Defeated Turkish invaders
   - Constructed Anasagar Lake

5. Vigraha-raja IV (c. 1150-1164 CE), alias Visaladeva
   - Expanded the Chauhan territories, and captured Delhi from the Tomaras.

6. Prithvi-raja III (c. 1178-1192 CE)
   - Better known as Prithviraj Chauhan
   - Defeated Mohd. Ghori in first Battle of Tarain in 1191
   - In 1192, He was Defeated by mohd. Ghori in Second Battle of Tarain

Chauhans of Ranthambore

The Chauhan lost Ranthambore as a result of defeat of Prithviraja III in battle of Tarain 1192. by Mohd. Ghori. But, Prithviraja's son Govindaraja IV accepted the Ghurid suzerainty, and ruled Ranthambore as his vassal.

1. Govinda-raja
   - Son of Prthvi Raja Chauhan III

2. Hammira-deva or Hammir Dev
   - In 1299, he defeated Allauddin Khilji's army led by Ulugh Khan & Nusrat Khan.

- In 1301, Allauddin Khilji again invaded his kingdom, which resulted in his defeat and death.

Hada of Bundi

In ancient times, the area around Bundi was inhabited by various local tribes majority group belonging to Meena. Bundi is said to derive its name from a former Meena tribe chief called Bunda Meena. Bundi was previously called "Bunda-Ka-Nal", Nal meaning "narrow ways". Later, the region was acquired by Rao Deva Hada, who took over Bundi from Jaita Meena in 1342, and established a princely state Bundi, renaming the surrounding area called Hadoti, the land of great Hada Rajputs.

Rulers of Bundi
1. Rao Deva Hada (1342-43)
    - Laid the foundation of hada state of Bundi after taking possession from Jaita Meena.
2. Rao Napuji (1343-84)
3. Rao Hamuli (1384 – 1400).
4. Rao Birsingh (1400 to 1415).
5. Rao Biru (1415 to 1470).
6. Rao Bandu (1470 to 1491).
7. Rao Narayan Das (1491 to 1527).
8. Rao Suraj Mal (1527 to 1531).
9. Rao Surtan Singh (1531 to 1544).
10. Rao Raja Surjan Singh (1544 to 1585)
    - Akbar & Man Singh I – negotiate treaty with Surjan Singh – hence given title of "Rao Raja"
    - Given government of Benares.
11. Rao Raja Bhoj Singh (1585 to 1608).
12. Rao Raja Ratan Singh (1608 to 1632)
    - Ratan Singh & his son Madho Singh – fight war against rebels & win during jahangir reign.
    - Jahangir divides Hadoti to Bundi & kota, giving Kota as separate state to madho Singh
    - Shah Jahan confirmed grant of Kota to Madho Singh.

13. Rao Raja Chhattar Sal Singh (1632 to 1658)
    - Chhatar Singh is made governor of Delhi by Prince Dara Shikoh (the son of Moghul Emperor Shah Jahan), but he dies fighting against Shah Jahan's successor, Aurangzeb.

14. Rao Raja Bhao Singh (1658 to1682)
    - Fights Aurangzeb and win against Raja Atmaram. Aurangzeb impressed and reconciles with Rajao Bhao making him governor of Aurangabad.

15. Rao Raja Anirudh Singh (1682 to 1696)
16. Rao Raja Budh Singh (1696 to 1735)
   - On Aurangzeb death Budh Singh ji supports Bahadoor Shah Alam, wheras Ram Singh of Kota sides with Prince Azim> Hence, rivalry between Bundi & Kota develops.

17. Rao Raja Dalel Singh (1735 to 1749).
18. Rao Raja Umaid Singh (1749 to 1770) – (1773 -1804).
19. Rao Raja Ajit Singh (1770-1773).
20. Rao Raja Bishen Singh (1804-1821).
21. Maharao Raja Ram Singh Sahib Bahadur (1821-1889)

Hada of Kota
   - Kota seceded from Bundi in 1631.
   - Between 1707- 1713 it was again reunited with Bundi
   - Kota became British protectorate in 1817.
   - Kota rulers bore the title "Maharao".

Rulers of Kota:
1. Madho Singh
   - 2nd Son of raja rattan Singh of Bundi, who confirmed grant of Kota to Madho Singh & separation, took place.
2. Ram Singh I (1696-1707)
3. United with Bundi (1707-13)
4. Bhim Singh I (1713-20)
5. Arjun Singh (1720-23)
6. Durjan Sal (1723-56)
7. Ajit Singh (1756-57)
8. Chhatar Sal Singh I (1757-64)
9. Guman Singh (1764-71)
10. Umaid Singh I (1771-1819)
   - Dewan Zalim Singh – formed state of Jhalawar – 1791
11. Kishor Singh II (1819-28)
12. Ram Singh II (1828-1866)
13. Chhatar Sal Singh II (1866-89)
14. Umaid Singh II (1889-1940)
15. Maharo Bhim Singh II (1940-1947)

Kachwaha Dynasty
1. Dhola Rai, (1006-1036)
   - In 1006, Dhola Rai married the daughter of Raja Ralhan Singh Chauhan, Raja of Ajmer.
   - Part of the dowry included the region of Dhundhar.
   - Raja Dhola Rai expelled the Badd Gujjar Rajputs from Dhundhar and made alliances with the Minas (tribal people) by promising the continuance of their tribal customs, granting them jagirs, and appointing them as kiladars

2. Mirza Raja Sawai Jai Singh II (1699 – 1743)
   - In 1699, given title of Sawai by Aurangzeb.
   - Formed marriage alliance with marwar & mewar to expel Mughal out of rajputana.
   - However, patch up again, and appointed as governor of Malwa & Agra.
   - A 1721, t Mughal emperor Muhammad Shah bestowed upon him the title of Saramad-i-Rajaha-i-Hind
   - In 1723, added the titles of Raj Rajeshvar, Shri Rajadhiraj and Maharaja Sawai Performed Ashwmedha Yajya & Vajapeya (after centuries)
   - Built five astronomical observatories (jantar Mantar) at Delhi, Mathura, Benares, Ujjain & Jaipur.
   - In 1727: Laid foundation of Jaipur – designed by Vidhydhar Bhattacharya
   - Translated works by people like John Napier.

3. Mirza Raja Sawai Ishwari Singh (1743 – 1750)
4. Mirza Raja Sawai Madho Singh I (1750 – 1768)
   - Was rewarded the fort of Ranthambhore by the Mughal Emperor
   - Founder of City Sawai Madhopur
   - Got Shaikh Sadi's Gulistan translated to Sanskrit.
   - Freed the Kachhawaha Kingdom from the Maratha

5. Mirza Raja Sawai Prithvi Singh II (1768 – 1778)
6. Mirza Raja Sawai Pratap Singh (1778 -1803)
7. Mirza Raja Sawai Jagat Singh II (1803 – 1818)
8. Mohan Singh (regent) (1818 –1819)
   - Installed on throne by nobles, but was soon deposed.

9. Mirza Raja Sawai Jai Singh III (1819 -1835)
10. Mirza Raja Sawai Ram Singh II (1835 -1880)
11. Mirza Raja Sawai Madho Singh II (1880 – 1922)
12. Mirza Raja Sawai Man Singh II (1922 –1947)
    - Adopted Son
    - Married Maharani Gayatri Devi
    - Rajpramukh of Rajasthan between 1949-1956.

Jats of Bharatpur

At the end of the 17th century, Jat Baija with his son Rajaram, Zamindar of the village of Sinsini, took advantage of the weakness of the Mughal Empire to enlarge his territory. Lord Ram's brother Laxman is the family deity of the erstwhile royal family of Bharatpur. The name 'Laxman' was engraved on the arms, seals and other emblems of the state.

Rulers of Bharatpur
1. Raja Ram, 1670–1688
2. Churaman, 1695–1721
   - The Jat power in Bharatpur strengthened in the 18th century under the leadership of Badan Singh and Churaman. However, the Mughals got Jat Churaman killed in 1721.

3. Badan Singh, 1722–1756

- Churaman's brother Badan Singh beacme a very powerful Jat leader following the death of Churaman.

4. Maharaja Suraj Mal, 1756–1767

- Maharaja Suraj Mal captured the fort of Bharatpur by vanquishing Khemkaran, the rival chieftain and laid the foundation for Bharatpur.

Bhattis of Jaisalmer

Jaisalmer kingdom was established in south-western Rajasthan . Once seat of Bhatti Rajputs, has been nicknamed "Golden City" owing to yellow sandstone structures and the gold-coloured desert surrounding it.

Rulers of Jaisalmer (1156 -1947)
1. Rawal Jaisal/Jessul (1156-68)

- The Bhatti capital at Lodorva (Ludarva) is destroyed by Shihab ud-Din Muhamma (Shihabuddin), the Afghan chief of Ghor.
- Rawal Jaisal laid foundation of new kingdom with Jaisalmer as its capital.

2. Rao Jaitsi (1276 – 1295)

- Faced 8 years seize by Allaudin Khilji
- 1st jauhar of Jaisalmer. (1295)

3. Dudar

- 2nd Jauhar of Jaisalmer – against Feroz Shah of Delhi

4. Rawal Lunkarn (1530-51)

- 3rd Jauhar of Jaisalmer- also called half jauhar of Jaisalmer – against local Afghan chief Amir Ali .
- Half Jauhar – Amir Ali obtained Rawal Lunakaran's permission to let his wives visit the queens of Jaisalmer. But Instead of women he sent armed warriors, which took the guards of the fort by surprise. As there was insufficient time to arrange a funeral pyre and battle seemed lost, Rawal slaughtered his womenfolk with his own hands. However, soon reinforcements arrived, sparing the men from the Jauhar and Amir Ali was defeated. Hence, it is called a half jauhar or Saka.

5. Rawal Maldeo (1551-62)
6. Rawal Harraj (1562-78)

- Submitted to Akbar

7. Rawal Bhim Singh (1578 – 1624)
8. Rawal Kalyandas (1624 – 1634)
9. Rawal Manohardas(1634 – 1648)
10. Rawal Ramchandra (1648 – 1651)
11. Rawal Sahal Singh (1651 – 1661)

- Assists Emperor Shah Jahan in his Peshawar campaign.

12. Maharawal Amar Singh(1661 – 1702)
13. Maharawal Jaswant Singh(1702 – 1708)
14. Maharawal Budha Singh(1708 – 1722)
15. Maharawal Akhai Singh (1722 – 1762)
   - Concluded peace with Bikaner.

16. Maharawal Mulraj Singh II (1762 – 1819)
   - Signed treaty of friendship with the British for protection.

17. Maharawal Gaj Singh(1819 – 1846)
18. Maharawal Ranjit Singh (1846 – 1864)
19. Maharawal Bairisal Singh (1864 – 1891)
20. Maharawal Shalivahan Singh III Bahadur(1891 – 1914)
21. Maharawal Sir Jawahir Singh Bahadur (1914 – 1949)

Fort Architecture in Rajasthan

Categories of forts according to Kautilya

1. Auduk Fort

2. Mountain Fort

3. Dhanwan Durg

4. Van Durg

According to the Venus policy, the parts of the state

• Considering the state as a part of the human body, according to the Venus policy, the fort has been called the main part of the body 'hand'.

Types of forts according to Venus policy :- 09

(1) Eran Fort - Those forts, in whose path the trenches are inaccessible with thorns and stones.

(2) Auduk fort - also called water fort. Such a fort that is surrounded by huge water bodies.

(3) Parikh fort - That fort, around which there is a huge moat.

(4) Paridh fort - There should be a huge wall of big walls.

(5) Giri Fort - Fort situated on a high hill or mountain.

(6) Dhanvan Durg - Fort built in the desert (desert).

(7) Van Durg - Fort built in densely rugged forests.

(8) Military forts: Smart soldiers reside.

(9) Sahai Durg - common man + soldiers live

UNESCO World Heritage Site of Rajasthan:-

1. Amer Fort

2. Gagron Fort

3. Kumbhalgarh Fort

4. Jaisalmer Fort

5. Ranthambore Fort

6. Chittorgarh Fort

In the meeting of the World Heritage Committee held in June 2013, it was included in the list of UNESCO sites.

1. Chittorgarh

• Produced by Chitragand Maurya (As per Kumar Management)

• Restoration - Rana Kumbha

• Plateau- Plateau of Mesa.

• Nickname- Pride of Rajasthan, Sirmaur of fortifications ("Gadh to Chittorgarh rest all Gadhaiya"), Gateway of Malwa, Gateway of South Rajputana, Sentinel of Southern border, Trikut, Khizrabad

Speciality:-

• Category - All categories except Dhanwan category

• Second oldest fort of Rajasthan

• The largest fort of Rajasthan

• Largest residential fort of Rajasthan

• The only fort in India in which agriculture is done

• Its shape is like a whale fish

• The highest number of sessions in Rajasthan were held in Chittor fort.

• Sake of Chittorgarh Fort –

• First Saka - 1303 AD due to the invasion of Alauddin Khilji

• Ruler / Saffron - Rana Ratan Singh, Gora, Badal

• Jauhar - Padmini, with sixteen hundred queens, the biggest jeweler

• Second Saka - 1534 AD due to the invasion of Bahadur Shah

• Kesaria - Rawat Bagh Singh (The monument of Bagh Singh is situated at the main entrance of Chittorgarh fort)

• Jauhar - Karmavati

• Third Saka - 1568 due to Akbar's invasion

• Saffron - : Jaimal Rathod, Fatta Sisodia

• Johar – Phoolkanwar

• Fateh Singh Sisodia's memorial is located at Rampol by the last entrance

Major temples of the fort

  Tulja Bhavani Temple –

• Producing - by Banveer

• Kuldevi of Banveer

• Adorable goddess of Maratha Shivaji

    Makeup - Chanwari

• Produced by 'Velka'

• Solvay pilgrimage dedicated to Shantinath

• The marriage pavilion of Kumbha's daughter Ramabai (Vagishwari) was built at this place.

 Saat-Bis Deori Mandir - Jain Temple

• This Jain temple is built by 27 Jain temples

 Mokal / Tribhuvan Narayan Temple / Samadvisvara Temple

• The temple of Tribhuvan Narayan is dedicated to Vishnu

• Producer Bhoj Parmar

• Modern Maker Maharana Mokal

Kumbhashyam Temple –

• Construction Kumbha

Mira Mandir - Rana Sanga

• Mirabai used to worship in this temple

• In front of the temple is the umbrella of Meerakuru Redas ji.

Kalika Mata Temple / Sun Temple –

• The oldest sun temple was

• Which was created by Man Maurya

Annapurna Mata

• Birwadi Mata Kuldevi of Sisodia dynasty

• Construction Hamir

The main palaces of the fort -

• Gora-Badal Mahal

• Padmini Mahal

• Jhala Mahal

• Saput Mahal

• Priestly Mansion

• Kumbha Mahal / Naulakha Mahal

• Fateh Mahal (Museum of Chittor)

• Bhamashah Ki Haveli

• Ratan Singh's palace

• Rao Ranmal's Haveli

Major Reservoir –

• Suryamukh Kund

• Ghasundi stepwell

doors -

• This fort has 7 doors

1. Pandan Pol

2. Bhairon Pol

3. Hanuman Pol

4. Ganesh Pol

5. Jadol Pol

6. Laxman Pol

7. Ram Pol

Victory Pillar -

• Construction - in Kumbha (1438-49 AD in the celebration of Malwa victory).

• Architect - Jaita, Natha, Poma, Poonja

• Height - 122 feet

• Stairs - 154

• Insignia of the Board of Secondary Education, Rajasthan Police and Forest Department

• Dedicated to Lord Vishnu

• Total 9 storey building

• The first monument of Rajasthan, on which on August 15, 1849, 1 Rs. Issue of postage stamp.

2. Kumbhalgarh Fort

• Nickname: Sentinel of Mewar-Marwar border, the crisis capital of Mewar kings, third eye of Mewar - Katargarh.

• Producer: Maharana Kumbha.

• Construction: 1458 AD. It was built by Maharana Kambha in the memory of his wife Kamubhaldevi.

• Shilpi: Mandan.

Characteristics-

• The total length of the wall on all four sides of the fort is 36 kilometres.

• The fort of Kumbhalgarh has been called Astron by Colonel James Tod.

• The residence of Kumbha in the fort is Katargarh.

• Uday Singh built a garden of Jhalia in this fort.

• Abul Fazl said about the Katargarh fort, "This fort is situated at such a height that on seeing it the turban of the head falls down."

• Maharana Pratap was born in this fort.

• Uday Singh's coronation took place in this fort.

• Range - Giri Durg (on Jarga Hill), Paridh Durg

• Entrance Gate - Orth Pol

Major buildings -

• Badal Mahal - the largest palace in Rajasthan

• Jhali Rani Ka Malia

• Katargarh

Temple

• Kumbh Swamy Temple - Rana Kumbha

• Neelkanth Mahadev Temple - Toad called Greek temple

3. Ranthambore Fort

• Present - Sawai Madhopur.

• Ranthambore literally means "Ghat of Rann".

• Built by Chauhan rulers.

• Shape - oval.

• Featuring Girivan Durga

• Surname - younger brother of Chittorgarh, Durgdhiraj

• Abul Fazal said "All the rest of the forts are bare but the Ranthambore fort is armored".

• At the time of Hamir, Jalaluddin Khilji attacked here and failed, on this he said that "I do not consider 10 such forts equal to the hair of a Muslim".

• Entrance Gate - Naulakha Darwaza

• In 1301 AD, Alauddin attacked Ranthambore Fort, at that time the first Saka of Ranthambore took place under the leadership of Hamir, it is also called the first Saka in the history of Rajasthan.

• Jogi Mahal, Supari Mahal, Rantbhanwar Ganesh ji's temple, Padam Talab, Jora Bhora Mahal, Pir Sadruddin, - the shrine of Shakambhari Mata temple is located in this fort.

• The only fort in the state, in which there are three temples, mosques and churches.

• Akbar carpet mint is also located here

4. Gagron Fort –

• Present - Jhalawar

• Creation – Bijaldev Parmar

• The construction of the bridge was done by the Parmar rulers.

• Category – Jal Durg

• Ancient name - Gagritpur

• Other names Dodgarh, Dhulargarh, Ek only Jaldurg, Zalim Kot

• At the confluence of rivers - Ahu and Kalisindh

• Fortress without foundation

• This fort has a triple wall

• Prithviraj Rathod was given the form of jagir by Akbar and here he composed Valley Kishan Rukmani Ri.

• There are two sakas here

o 1423 First Saka

o Ruler- Achaldas Draghi

o Invader - Hoshangshah Gujarat

o II Saka 1444

o Ruler - Palhan Singh

o Invader- Mahmud Khilji Malwa (name changed to Mustafabad)

• Madhusudan Temple, – Buland Darwaza – Aurangzeb, Diwan-e-Khas, Diwan-e-Aam, Janana Mahal, Palace of Achaldas, Jauhar Kund, Sweet Shah's Dargah, Andheri Baori etc. are the places of interest.

• Gagron fort is believed to be the birthplace of Saint Pipa.

5. Sonargarh Fort –

• Present - Jaisalmer

• Hill - Trikuta Hill

• Construction completed - Shahvahin II (1164)

• Entrance Gate - Akshay Pol

• Category - Giri, Eran

• Shape - Triangular

• Construction started by Rao Jaisal and completed Shahvahin carried out by

• Other names - Sonargarh, Swarnagiri, Kamarkot, Gauhragarh, Fort of the streets, Rose of the desert and Sentinel of the western border

Speciality

• Selected and unused cement

• The fort is built of yellow stones.

• 99 Burj (Fort with the highest tower)

• Like a lion with a frown on sight and like a ship's anchor opened

• In 2009 Rs.5. postage stamp of

• Satyajit Ray produced the Sonar Fort film

• Surrounded by Ghagra Numa, hence it is also called Qamar Court.

• Second largest living fort

• Inside the fort is the 'Jin Bhadra Suri' underground museum. On which collections of texts painted on palm leaves (copper leaves) have been made.

• Jaisalmer's Adai 2 Ardh Saka :-

First Saka - (1312) -

• Local ruler - Mulraj

• Invader - Alauddin Khilji

Second Saka - (1370–71)

• Local Ruler - Duda

• Invader - Firoz Shah Tughlaq

Ardha Saka - (1550)

• Local Ruler - Lunkarna

• Invader - Kandahar Amir Ali

6. Amber Fort –

• Located in Jaipur

• Creation - Kokil Dev (1207 AD)

• Modern builder of the fort - Man Singh I

• Range - Giri Durg - On Kalikhoh Hill

• Nickname - Ambevati Durg, Amrapali Durg, Gokalgarh, Mominabad (Bahadur Shah)

• Shape- Palace

• The only fort in Rajasthan, in which Meena Bazar is located.

• Entrance Gate - Ganesh Pol and Hathi Pol

(Ganeshpole has been described by Ferguson as the most beautiful door in the world)

The main palaces of the fort -

• Diwan-i-Khas

• Diwan-i-Aam

• Suhag Mandir - (This is the place of ridicule of queens)

• Sukh Mandir - (12 similar rooms which were built by Mirza Raja Jaisingh)

• Daulat Arambagh

• Mawtha Reservoir

• Saffron Garden

• Saffron-Kyari

• Kadmi Mahal –

o Construction - done by Rajdev

o Modern builder - Man Singh I (Coronation site of Amer kings)

• Major Temples :-

• 1. Temple of Shila Devi

o Adorable goddess of the Kachhwaha dynasty

o Construction - Man Singh I got it done.

o Murti - brought by Man Singh I by defeating King Kedar of East Bengal.

• Jagat Shiromani Temple

o Produced by Kanakavati, wife of Man Singh I.

o The idol - brought from the Mira - temple of Chittorgarh.

• Major Reservoir -

1. Mawtha Reservoir

2. Elephant – Reservoir

7. Bhatner Durg

• Construction - Bhupat Bhati - in the 3rd century

• Category - Paddy

• Architect - Kaikeya

• Entrance Gate - Gorakhpol

• Nickname - the watchdog of the northern border, the twist of the Bhatis

• Buildings located in Bhatner Durg -

• Guru Gorakhnath Ji Temple

• Hanuman ji's temple

• The fort on the Delhi - Multan road

• Situated on the banks of river Ghagdhar/Saraswati

• The kingdom's oldest fort

• Clay fort

• First foreign invasion - 1001 AD Mohammad Ghaznavi

• Last Foreign Invasion - 1570/97 - Akbar

• Anupgarh - in Sriganganagar - Produced by Anoop Singh

• The only fort in the state where Muslim women committed Jauhar during the invasion of Timur Lang.

• Local ruler at the time of this Jauhar - Moolchand

• Proof of Jauhar - in Taimur Lang's autobiography 'Tuzuk-e-Taimuri'

• The tomb of Ghiyasuddin Tughlaq's brother Sher Khan is located in this fort.

• In 1805 AD, Bikaner ruler Surat Singh conquered Japata Khan Bhatti on Tuesday and kept 'Hanumangarh'. Bhatner fort is also known as 'Hakra fort'.

8. Mehrangarh Fort

• Producer :- Rao Jodha in 1459 AD

• Foundation :- By Karni Mata (Riddhi Bai)

• Shape :- Like a peacock

• On the Chidiyatunk hill (Giri Durg)

• Other names :- Murdhwaj, Gadchintamani

• In the foundation of this fort, Rajia (Rajaram) Meghwal was elected alive.

• Man Prakash Library was established by Maharaja Mansingh in 1805 AD, in 1974 it was given the recognition of a museum

• In the courtyard of the Daulat Khana of Mehrangarh Fort, there is a marble decoration post built by Maharaja Bakht Singh.

• There is Jaswant Thada in this fort, which is also called the Taj Mahal of Rajasthan, it was built by Sardar Singh in the memory of his father Jaswant Singh II.

•   Temple -

1. Temple of Chamunda Mata -

• Construction - done by Rao Jodha.

• Chamunda Mata is the deity of the Rathores.

2. Temple of Nagnechi Mata -

• Goddess of Jodhpur Rathores

• Producing - by Jodha

Palace :-

• Here the tomb of Bhure Khan and the tomb of Sher Shah Suri are located.

• Akbar's sword has been kept in the museum of this fort.

• Rudyard Kaling / Kipling - Made by Fairies and Angels

• Jacqueline Kennedy - 8th Wonder of the World

• Bill Gates - Jodhpur - Blue City

• Todd said that the whole state can be monitored from this fort.

•   Palace

i. Phool Mahal - Gold Work by Bakht Singh

ii. Chaukha Mahal

iii. Shringar Chowki

iv. abbey palace

v. Beach Palace

vi. Moti Mahal (Takht Singh got the gold work done)

cannons in the fort

• Kilkila Cannon :- Brought to you from Ahmedabad by Raja Ajit Singh.

• Shambhuban Cannon :- Raja Abhay Singh snatched it from Sir Buland Khan.

• Ghazni Khan Cannon :- Raja Gaj Singh conquered Jalore

9. Junagadh (Bikaner)

• Producing- Rao Bika Shilpi Nopaji

• Reconstruction Raisingh Shilpi Kramchandra

• Shape - Quadrangular

• Category – Dhanwan

• By Entrance - Karnpol, Surajpol

• Nickname - Junagadh, Tekdi of Bikaner, Tekdi of Bikaji, Fort of Rati Valley, Jewel of land

• Gaj Mandir - Built by Ratan Singh

• Temple of 33 crore gods and goddesses which was built by Anup Singh

• Chhatrar Mahal (famous for the view of Rasleela)

• Badal Mahal (famous for gold art in Rajasthan)

• Phool Mahal (famous for glass work)

• Anoop Mahal (famous for gold painting) The coronation of Bikaner kings is currently the administrative museum

• Karna Mahal - Public Audience Hall built by Anoop Singh

• Ganga Mahal - a headquarters of World War I aircraft built by Ganga Singh

• Lion riding Ganesh temple here

• 37 turrets

• First lift was installed in it

• Rameshwar Ram Sir Talab Ghantaghar Sursagar Lake which was renovated by Vasundhara Raje

• At the main entrance of Junagadh fort, there are huge statues of Jaimal and Fatta.

• Here are the silver beds and thrones of Rao Bika.

10. Taragarh (Ajmer)

• Producing- Ajayraj

• Pahadi – Beethali

• Nickname - Heart of Rajasthan, Arman of Aravalli, Key of Rajputana, Gibraltar of Rajasthan - Vishwa Heber, Garh Beethli fort

• This fort was renovated by Prithviraj Sisodia and named it Taragarh after his wife Tara Bai.

• The only fort in the state where the horse's tomb is located.

• The state's first swimming pool is located

• Located at the dargah of Miran Sahib

• Ruthi Rani's Palace

• The Rangmahal located in the fort was built by Chhatrashal.

11. Akbar's Fort

• Construction – Akbar

• Built 1570 by Akbar

• Category – Dhanwan and military forts (due to being on flat ground)

• The only fort in Rajasthan which is built in Muslim Persian style

• Built for Akbar as a permanent residence in Ajmer

• The first Badshahi Bhawan was built before this fort.

• This fort was built to express reverence to Khwaja Moinuddin Chishti

• Its shape is quadrangular

• Main Gate - Jahangir Poli

• Foundation – by Dadu Dayal

• Nickname - Akbar's Wealth Khana, Akbar's Armory, Manganese Fort, Ajmer Fort

• Haldighati battle plan site

• Renovation of the fort - Lord Curzon

• Rajputana in 1907 - Establishment of the museum, whose first president - Dr. Gauri Shankar, Hiranand Upadhyay

12. Siwana Fort - Barmer

• Producing – Produced by Veernarayan Pawar

• Situated on the hill of the hill Haldeshwar

• The crisis capital of the rulers of Marwar

• The place of refuge of Veer Durgadas

• It is called the key of Jalore fort.

• Kumat Garh Fort - There is more predominance of Kumat around this fort.

• Alauddin Khilji renamed this fort as Khairabad.

• Mathuradas Mathur and Jai Narayan Vyas were kept captive in this fort during the freedom movement

• It is also called Kumbana Durg.

• Mamdev Kund is situated here.

• Marwar is said to be the place of refuge of the kings.

• Crisis capital of Marwar kings

• Two sacks in Siwana fort

First Saka - 1308 AD occurred at the time of Alauddin Khilji's invasion.

Ruler Veer Satal Dev

Second Saka - 1587 Invader Mota Raja Udai Singh

Ruler Rao Kallaji

13. Jalore Fort

• This is the Giri fort in Jalore

• Swarna Giri Kach situated on the Kachal hill

• This fort is on the banks of river Luni

• Construction - Section Year Settled by G.H. According to Ojha, Nagabhatta 1st was built according to Dr. Dashrath Sharma

• Alauddin Khilji named this fort as Jalalabad.

• Nickname - Songadh, Suvarnagiri

• By Main Entrance - Sirpol, Surajpol

• Natni's umbrella is made.

Main Palace :-

• Mansingh's Palace

• Rani Mahal (two storied)

• Nathawat Palace

Temple :- Avasudhan Temple, Jogmaya Mata Temple, Asapura Mata Temple, Biramdev Chowki are located.

• Alauddin Khilji got the Firoza Mosque built in this fort.

• In 1311 AD, Alauddin Khilji attacked Jalore fort.

• In Jalore fort's Sake (1311 AD)

o Kesaria was led by Kanhaddev

o Jauhar was led by Jaital Devi.

• Jalore fort is said to be the key of Siwana fort.

14. Todgarh Fort

• Ancient name - Borswara

• Built by the British

• By Colonel James Todd

15. Bhainsrodgarh Fort

• Location : Chittorgarh

• On the banks of Chambal and Bami rivers

• Construction :- Bhainshah and Roadshah

• The only fort built by the traders of Rajasthan, from which the traders built

• Vellore of Rajasthan

16. Achalgarh Fort

• Location – Sirohi

• Manufactured by Paramaro or by Maharana Kumbha

• On the banks of the Mandakini Lake

• Temple - Temple of Akhileshwar Mahadev, Gomukh Temple

• Sawan Bhado Lake

17. Mandalgarh Fort

• Location - Bhilwara

• Bowl shaped

• Banas Bedch on the banks of the confluence of the Menal River

• Nirman Mandia Bhil

• According to Shyamal Das, Hiranand Aujha, it was built by the Chauhans.

• Haldighati's final plan was made in this fort, 21 days military training was given

• Situated on the hill of Bijasan

• Maharana Pratap could not control Chittorgarh and Mandalgarh for life.

18. Nagaur Fort

• Nickname - Nag Durg, Nagana Durg, Ahichhatrapur Durg

• Construction – feudatories of Kadambavas / Kemas Someshvara

• Most Manufactured Bakht Singh

• Entrance Gate Siroj Pol

• The original Badal Mahal is located, which was built by Bakht Singh.

• World famous fort for water management.

• Workplace of Amar Singh Rathore

• Amarsingh Rathore's 16-pillared umbrella is located.

• Shah Jahan gave this fort to Amar Singh

19. Sojat Durg - Pali

• On the banks of the Sukri River

• Creation - in 1460 by Nimba (son of Jodha)

• Pahari - Shirdi Hill

• MOD Manufacturer - Maldev

• Ramganga gave it to Veeramdev in 1515.

• Akbar snatched it from Chandrasen

• Jahangir gave it to Kramsen in 1607

20. Auva Pali

• Construction - Champawato

• The famous 1857 Kushal Singh

• In 1858 Holmes and Deesa took over

• Back in the possession of Champawats in 1868

21. Bali Durg

• Location – Pali

• Construction – 1240 Biramdev (Jalore)

• Modern Producer – Chen Singh

• The gullies of the Pandavas are kept.

• Presently the jail is operating in this fort.

22. Churu Fort

• Construction - Thakur Kushal

• Thakurs fired silver balls to protect themselves.

• Nickname- Dholkot

23. Lohagarh Fort (Bharatpur)

• Construction :- Rustom Jat

• Genuine/Modern Producer – Surajmal Jatt

• Category – Parikh Durg

• By Entrance – Loriapol

• Nickname - Ajaydurg of Rajasthan, guard of the eastern frontier.

• Major palaces of the fort – Grandmother's palace, Kishori Maa's

• Mahal and Wazir Kothi.

• Jawahar Burj was built by Jawahar Singh to commemorate the victory of Delhi, in which the Bharatpur rulers are crowned.

24. Bayana Durg

• Construction - Vijaypal

• Hill - on Damdama / Mani hill.

• Nickname- Rohitpur, Banasur, Vijaymandirgarh, Badshah Durg

• Bhimlat's pillar construction - Vishnuvardhana got it done.

• Queen Chitralekha built the Usha temple.

• Mubarak Khilji got the Usha Masjid built instead of the Usha temple.

25. Deeg Fort :- Bharatpur

• Production - Badan Singh

• Located at Surajmal Mahal

• Jal Mahal is situated on the side of this fort.

26. Balakilla- Alwar

• Alwar Fort

• Producer- Ulguram Kokildev

• The beloved of 52 forts.

27. Bhangarh Fort- Alwar

• Construction - Bhagwantdas

• Ghostly Fort

• Mehndi Mahal and Ghas Kund are situated in this fort.

28. Jaigarh Fort

• Construction - Kokil Dev, Mansingh I, Mirza Raja Jai Singh, Sawai Jai Singh

• Hill Ingle Hill

• Looks at Amber

• The fort was used to keep the treasury of the kings of Amer

• Asia's largest Jaiban cannon has been kept here, the weight of the cannon is 50 tons and the length is 20 feet, the weight of the shell is 50 kg and its firepower is 35 km.

• This cannon was fired only once in history, which led to the creation of the Golelav (Chaksu) pond.

• Entrance Gate - Dungar Pol, Jai Pol

• The largest tank of Rajasthan is situated in this fort.

• The first factory for making cannon was established in this fort.

29. Nahargarh Fort (Jaipur)

• Built in 1734 by Sawai Jai Singh (to protect Jaipur from Marathas)

• Pahadi - on a sweet hill (this is a fallen fort)

• Madho Singh I built nine similar palaces in the Victorian style for his paswan queens in the fort.

• This fort is called the crown of Jaipur, it looks towards Jaipur.

• Silekhana, Hawa Mandir, guest planet of Madhav Singh are located in this fort.

• Nickname - Sulakshana Fort, Sudarshan Garh, Tiger Fort, Jaipur Dhwaj Garh, Fort of Palaces, Fort of Mithri

• Rajasthan's first biological park is located here

Folk Dance, Folk Music, Music Instruments

Folk Dance of Rajasthan

1. Ghoomar Dance

- It is traditional as well as enthusiastic folk dance.
- Women from any age group perform this dance as it has simple movement. Fascination starts when colours of the flowing 'Ghaghra', the long skirt of Rajasthani women flows during pirouetting.
- It was basically developed by Bhil tribe and later accepted by other Rajasthani community.
- The Kachhwaha Clan of Rajputs who ruled Jaipur defeated the Bhils and later acceded to peaceful coexistence with them.
- Now it is performed all over Rajasthan but especially in Udaipur, Jodhpur and Kota-Bundi.
- It is dedicated to "Gauri" or Parvati, wife of Lord Shiva.

2. Kalbelia Dance

- It is also known by 'Sapera Dance' or 'Snake Charmer Dance'.
- It is performed by Kalbelia tribe (Nomad Tribe) of Rajasthan known to have the main occupation of catching snake and trading snake's venom.
- Males play various instruments like Poongi, Dufli, Morchang, Dholak, Khanjari and Khuralio and females perform the dance.
- The main performers are female dancers who dance and swirl, replicating the movements of a serpent.
- On the upper body, the female dancers wear 'Angrakhi' and on the head, they wear Odhani.
- Due to its popularity, it was included in the UNESCO's representatives list of the Intangible Cultural Heritage of Humanity from the year 2010.

3. Bhavai Dance

- It is a very difficult form of dance performed by skilled experts. In this dance, women dancers balance 8 to 9 pitchers on their heads and dance simultaneously and sway with the soles of their feet perched on the top of a glass and also some time on the edge of a naked sword.
- This dance is believed to be originated in Gujarat and was soon picked up and adopted by the local tribal men and women of Rajasthan.
- This is basically performed by the women's of the Jat, Bhil, Raigar, Meena, Kumhar, and Kalbelia communities of Rajasthan.
- Main instruments: - dholak, jhanjhar, pakhwaja, sarangi and harmonium (played in background music).
- The government is taking all necessary measures to revive this fast dying tradition of folk dance.

4. Kathputli Dance

- This dance is world-famous and well known as Puppet Dance.
- It shows and explains the social problems of society and mythological stories, folktales, etc.

- In the ancient period this art was practised by Bhati community and might have originated from present-day Nagaur and surrounding areas.
- Puppeteer shows his skill with strings like swordsmanship, dancing, horse riding, juggling, and acrobatics.

5. Terah Taali

- It begins with the women, who sit on the floor and her body parts are joined with the Manjeeras which are fixed on their wrists, elbows, waists, arms and a pair in their hands as well and her accompanists sing slowly in the beat.
- Dancers perform various arabesques with their hands and at the same time may also balance pots on their hands and hold a sword in their mouth, for making the performance more attractive.
- This dance is performed by the Kamada tribes who are traditional snake charmers and it is also performed by the tribes of Mirasi, Bhand, Dholi, Bhat and Nat.
- Male artists sing local Rajasthani folk songs as background music and play different instruments like pakhawaj, dholak jhanjhar, sarangi, harmonium etc.

6. Drum Dance

- It is a professional dance form of Jhalore region of Rajasthan, where only the men participants can perform.
- To make the background music more pleasant other percussion instruments are used.
- As the tempo increases, the movement of the dancers increases as well which look so attractive.
- This dance can be performed on any occasion.

7. Kathak

- Kathak name is derived from the word Katha which means 'story' which is based on epics, myths and legends.
- So kathak is basically an art of telling the story with beautiful body movements.
- The background classical music play with tabla, sarangi, and sitar etc.
- It was developed by Jaipur Gharana, a well known Gharana of India.
- Earlier kathak was performed in temples in praise of Lord but nowadays it is performed for entertainment purpose.
- There are mainly two techniques; Nrittya which means pure dance (foot movements) and Abhinaya mean expressions.
- In Nrittya, Dancer mainly focuses on foot movements whereas, in Abhinaya, dancers focus on facial expressions.

8. Chakri Dance

- Chakri means Chakkar (Circle).
- It is the most popular folk dance of Kanjar tribe inhabited in some parts of Kota and Buran district and this dance is also their main source of livelihood.
- It is performed in almost all the occasion of Haroti region of Rajasthan.
- It is believed to be as same as the Raai dance of 'Beriya' tribe of Madhya Pradesh.
- Main Instruments:- Dholak and Nagada with vocals

9. Fire Dance

- It is performed by the Banjara community which describes the lifestyle of Jasnathis of Bikaner and Churu districts of Rajasthan.
- It is performed on a large ground, spread with live wood and charcoal.
- Dancers perform dangerous stunt moves with fire as they are blessed with divine powers.
- A dancer usually takes two flamed sticks in his hands and fills up his mouth with kerosene oil and with dancing steps he blows the kerosene oil on the flaming stick.
- Dhol, Dholak and Nagada are played during fire dance with increasing tempo.
- It is performed in the desert region of Rajasthan in the nights of winter on the festive occasion.

10. Kachhi Ghodi Dance

- It was originated from the Bandit region of Shekhawati.
- It is performed by men on dummy horses.
- Men wear the red turban, Dhoti and Kurta and dance with decorated dummy horse.
- This dance is performed to show the importance of horses from olden days in transportation as well as used in warfare. Horses were used to symbolize royal power during those days.
- This dance depicts the encounter of the bandits of the Bavaria clan of tribes with the passing commoners.

11. Khayal Dance

- Khayal means 'thoughts'.
- It is believed to be originated from Jat community.
- It is performed by the Bhawai tribe of Rajasthan.
- It is the combinations of dance and drama which depict humorous and comic characters.
- This dance is based on the theme of Hindu epics.

12. Gair Dance

- Famous in Bhil community of Rajasthan.
- Both men and women dance together.
- Men dance in a big circle with the wood stick in their hands and beat the stick as they turn on the beat of the dhol, Nagada and Dholak playing in the background.
- It is performed during festive occasions like Holi, Janamastmi, etc.

13. Chari Dance

- It belongs to Gujjar community of Rajasthan and performed by only women.
- In this dance, women carry a brass pot on head and a lighted lamp is then placed in the pot.
- This dance is performed in the group in the night and the ignited pot looks so attractive.
- It has no particular step except balancing pot.
- It is also known as 'Welcome Dance'.
- Main ornaments wore by women during the dance are Hansli, timniya, mogri, punchi, bangdi, gajra, armlets, karli, tanka and navr.
- Main instruments: - dhol, dholak,bankiya, harmonium, nagada and thali.

- It is mainly performed on occasions like marriage, the birth of a male child and a big festive occasion.

14. Gawari Dance

- It's a tribal dance famous in Bhil tribe.
- It is a drama-dance which go from village to village for a month.
- Some of the main characters of the Gawari dance are Rai Buriya Shiva, his two sons and Katkuriya, the comic handymen.

15. Walar Dance

- It is famous in Garasia tribe.
- It is a prototype of the famous ghoomar dance.
- Garasia tribe is mainly inhabited in the southern Rajasthan.
- It is performed by women in a circular way dancing on the beats of mandal, chang and a variety of other musical instruments which provide a lively rhythm to their dance sequences.
- Performed on the occasion of Teej festival and Gangaur.

Folk Music of Rajasthan

- Folk Style of Singing of Rajasthan

1. Maand

- This style of singing developed in the district of Jaisalmer whose old name was Maand.
- 'Kesariya Baalam' is the most famous song in this style.
- Famous Singer – Allah Zillai Bai, Gavari Bai, **Mangi Bai**, etc.

2. Maangniyaar

- Developed by Maangniyaar tribe in the region of Jaisalmer and Barmer.
- Famous Artist – Saddik khan, Saakar Khan, etc.

3. Langa

- Developed in the region of Jaisalmer and Barmer by Langa tribe.
- Mainly known for their song Limbuda.
- Main instrument – Kamayacha and Sarangi

4. Taalbandi

- Developed in the region of Karauli, Sawai Madhopur and Bharatpur by Saints.
- Main instrument – Nagada

Folk Instruments Of Rajasthan

Sr. No	Instrument Name	Main Points
1.	Algoza	It is State Instrument of Rajasthan. Mainly played in the regions of Jaisalmer, Jodhpur, Barmer, Bikaner, Jaipur, Sawai Madhopur and Tonk. It is used mostly by Bhil and Kalbeliya tribe
2.	Iktara	It's a one-string instrument. Mainly played by Kalbeliya, Saints, etc.
3.	Kamayacha	Famous in Jaisalmer and Barmer region. It is mainly used by Muslim Sheikhs who are also called Mangniyar.
4.	Khartal	Sadik Khan is famous for playing Khadtal. Played by devotees and Saints.
5.	Chang	It is mainly played during Holi in Shekhawati region. It is played by the Kalbeliya Tribe.
6.	Jantar	It is played during the Bhajans of Devnarayana. It is mainly played in Mewar region.
7.	Jhanjh	It is famous in the Shekhawati region. It is played during Kacchi Ghodi dance with Tasa.
8.	Dhol	It is mainly used in Gair dance of Bhils, Kachhi Ghodi dance and Dhol dance of Jalore.
9.	Tandoora	It is a four-string instrument also called Chautara.
10.	Tasha	It is mostly played by Muslim people.
11.	Nagada	It is played during folk drama with Shehnai. It was mainly used during wartime.
12.	Pungi	It's a flute type instruments having two pipes. The famous instrument of Kalbeliya and Bhil tribe.

13.	Bhapang	It's a famous instrument Mewat region. Zahur Khan is the famous Bhapang player.
14.	Manjeera	It is famous in Dungarpur region. It is used in Terah Taali dance.
15.	Mashak	It is mainly used in Bhairu Ji's Bhope (Male Singer)
16.	Maadal	It is played by Bhils during Gavari dance.
17.	Ravanhatta	It is the main instrument of Male singers (bhope) It is also called Dhaf.
18.	Shehnai	There is 8 holes in the pipe of Shehnai. Mangi Bai is the famous Shehnai player. It is played during auspicious occasions.
19.	Sarangi	It is used by Langa tribe in the region of Barmer and Jaisalmer. Mirasi, Langa, Jogis, Mangniyaar, etc played this instrument while singing.

folk deities of rajasthan

Panch Pir of Marwar –

The above statement is prevalent about the Panch Peers-

"Pabu, Hadbu, Ramde, Mangliya Meha.

 The five pirs came to gogaji geha."

Gogaji, Pabuji, Hadbuji, Ramdevji, Mehaji.

Pabuji Rathod:

• Birth place- Kolumand village (Phalodi, Jodhpur).

• Father-Dhaadhal ji Rathore.

• Mother-Kamalade.

• Wife-Phulamde/Supiyar (Daughter of Amarkot Raja).

• Pabuji's mare - Kesar Kalmi

• Pabuji attained heroic speed while rescuing Devalcharani's cows from Jindrao Dhichi, Pabuji's wife was satiating with his clothes.

• Pabuji's nephew and Budoji's son Roopnath avenged the death of his father and uncle by killing Jindrao Dhichi.

• Roopnath ji is also known as Balaknath.

• Pabuji is considered to be 'incarnation of Lakshmana'.

• Harmal and Chanda were the protectors of Dema Pabuji.

• Pabuji is famous as 'God of Camels', 'Gau Rakshak Devta' and 'Plague Protector Devta'.

• The credit of bringing camels to Marwar goes to Pabuji.

• Raika/Rebari/Devas believe their adorable god Pabuji

• The Phad of Pabuji is played by the Bhil Bhope of the Nayak caste along with the Ravana Hatha musical instrument.

• Most popular and most popular Phad is Pabuji's Phad.

• Pabu Prakash was written by - Aashiya Modji

• Fair : Magh Shukla Dashami and Bhadrapada Shukla Dashami in Kolumand village (Phalodi, Jodhpur)

• Pabuji's pavadas/pavdas (ballad songs) are famous, which are sung along with a math instrument.

Grapefruit:

• Father's name- Mehaji Sankhla

• Hadbuji was the cousin of Baba Ramdevji.

• Guru - Balinath.

• He had blessed Jodha to win Mandore and presented a dagger to him. After winning Mandore, Jodha gave him the jagir of Bangti (Phalodi, Jodhpur).

• Jodhpur Maharaja Ajit Singh has built a temple in Bangti. Here the carriage of harbooji (cart / camel cart) is worshipped. In this cart, Hadbuji used to bring hay from far and wide for the disabled cows.

• Hadbuji was the knower of Shakun Shastra (Prophet).

Ride of melon : Jackal.

Gogaji Chauhan:

• Birth- v. no. in 1003.

• Birth place - Dadreva (Churu).

• Father- Jewarji Chauhan.

• Give mother-child.

• Wife- Princess Kelamde (Mainalde) of Kolumand (Phalodi, Jodhpur).

• Musical instrument related to Gogaji - Deru.

• Fair : Goganavami (Bhadrapada Krishna Navami) at Gogamedi, Hanumangarh

• Symbol - Snake.

• Ride-blue mare.

• Gogaji is worshiped as the god of serpents.

• Gogaji's cousins Arjan and Surjan attacked Gogaji with the help of Muslim invaders (Mahmud Ghaznavi). Gogaji was martyred by fighting valiantly.

• While fighting, Gogaji's head fell in Dadreva (Churu), hence it fell in Shirshamedi (Shishamedi) and torso in Nohar (Hanumangarh), hence it is also called Dhadmedi / Dhurmedi / Gogamedi.

• Mahmud of Ghaznavi called Gogaji Zahir Pir (Direct Pir).

• Gogamedi was built by Firoz Shah Tughlaq. Bismillah is written on the main gate of Gogamedi and its shape is like a tomb.

• The present form of Gogamedi is the gift of Maharaja Ganga Singh of Bikaner.

• Devotees of Gogaji perform Sankal dance.

• In Gogamedi, Hindu priests perform puja in Bhadrapada month and Muslim priests (Chail) in other months.

• Gogaji's abode is believed to be under the Khejdi tree.

• Gogaji's flag is considered to be the biggest flag.

• Famous place named 'Gogaji ki Oldi'- Sanchore (in Jalore).

Ramdevji:

• Birth of Ramdevji - Undukashmir

• Father's name- Ajmalji Tanwar,

• Mother- Maenade,

• Wife- Netalde (King of Amarkot was the daughter.)

• Guru's name - Balinath.

• According to popular belief, Ramdev ji is considered to be an incarnation of Krishna and his elder brother Biramdev Balarama.

• Samadhi-Runecha (Jaisalmer) on the pal of Ramsarovar took a living samadhi on Bhadrapada Shukla Dashami.

• At the Samadhi site of Ramdevji, his religious sister Dali Bai took the first (Bhadrapada Shukla Dashami) samadhi.

• Popularly known as Ramsapir

• Neja - Pacharangi flag of Ramdevji.

• Jatru - the pilgrim of Ramdevji.

• Rikhians - Meghwal devotees of Ramdevji.

• Jamma - Jagran of Ramdevji (night satsang)

• Leprosy preventer deity.

• The preventive god of cholera.

• Ride - Leela (green) horse.

• Started the Kamad cult.

• The main center of Kamad Panthis in Rajasthan is Padarla village (Pali), besides Kamar Panthi reside in Pokaran (Jaisalmer) and Didwana (Nagaur).

• Terhtali Dance- In the worship of Ramdevji, women of Kamad caste perform the famous Terhtali dance by using Manjire musical instrument.

• Ravana of the Kamad caste Bhope of Ramdevji plays with the Hatha musical instrument.

• Fair - Every year Bhadrapada Shukla Dwitiya fills a grand fair of Baba Ramdevji in Ramdevra (Jaisalmer).

• Symbol of Ramdevji - Pagalyan.

• Ramdevji was the only Lokdevta who was a poet. 'Bees Four Baniyas' is a famous composition of Ramvadevji.

• The temple of Ramdevji located in Ramdevra was built by Maharaja Ganga Singh of Bikaner.

Mehji:

• Major worship- Bapini village (Osian, Jodhpur)

• Martyr while fighting with Rao Ranangdev Bhati of Jaisalmer

• Due to being the presiding deity of the Manglis, he is called Mangliya Mehaji.

• Horse name - Kirad Kabra.

• Janmashtami of Lokdevta Mehaji is celebrated on Krishna Janmashtami (Bhadrapada Krishna Ashtami).

• The descendants of their brothers do not grow, they carry forward the lineage by adopting the child.

Tejaji:

• Born - 1074 AD, in Khadnal/Kharnal (Nagaur).

• Father's name- Taharji Jat,

• Mother's name- Ramkunwari

• Wife-Pemalde (Was the daughter of Raichandra of Paner.).

• Tejaji was going to his in-laws' house, Paner Ajmer to bring his wife, then at a place called Sursura, Lachha Gujari was injured while saving a woman's cow and Tejaji dies due to snake bite on her tongue and his wife becomes sati.

• The name of the mare - 'Leelan'.

• Tejaji's priest is called Ghodla.

• The gods of Kala and Bala are also called.

• The benefactor of agricultural works is also called the deity.

• Revered as a cow protector deity.

• Specially revered in Ajmer and Nagaur.

• Every year on Tejadashmi (Bhadrapada Shukla Dashami) a grand cattle fair is held in Parbatsar (Nagaur).

• It is the largest cattle fair of Rajasthan in terms of income.

• The main places of worship of Tejaji are in Sendriya, Beawar, Bhavatan, Sursara (Ajmer) and Kharnal (Nagaur).

• On September 7, 2011, Tejaji's postage stamp was issued, at that time Sachin Pilot was the Information and Broadcasting Minister of Rajasthan.

• Tejaji's sister Bungri Mata's temple is built in Kharnal Nagaur.

• Tejaji's bhopas which treat snake bites are called Ghodla.

God Baba:

• Temple - in Nagla ship village (Bharatpur).

• Dev Baba was a Veterinarian

• To make them happy, 7 cowherds are fed

• Dev Baba is known by the names of the deity, the protector of cows, the preventer of troubles.

• Fair - Bhadrapada Shukla Panchami (Rishi Panchami) and Chaitra Shukla Panchami.

• Ride : Buffalo.

• Their place is located under the neem tree.

Devnarayanji (God of Medicine):

• Real name - Uday Singh.

• Born in a Bagdawat Gurjar family.

• People of Gurjar caste consider him as an incarnation of Vishnu.

• Father-Sawaibhoj,

• Mata-Sedhu Devi,

• Wife-peepalde.

• Horse - Lilagar.

• Devji's Phad-Gurjar caste Bhope dances with a Jantar musical instrument. Instead of idols in his temple, bricks are worshiped with neem leaves.

• Jantar instrument is considered equivalent to 100 mantras (mantras).

• The longest Phad of Devnarayan is considered to be the oldest and most relevant Phad.

• Government of India issued a postage stamp of ₹ 5 on 2 September 1995 on the phad of Devnarayan ji.

• Shrine of Gurjars :- Temple of Sawai Bhoj, Asind (Bhilwara).

• Fair - Bhadrapada Shukla Saptami.

Veer Kallaji Rathod:

• Birth place- Merta (Nagaur).

• Father-Rao Achlaji |

• Kallaji was Mirabai's nephew.

• Veer Kallaji along with Jaimal Rathod and Patta/Fatta Sisodia were also martyred while fighting against Akbar and in favor of Udai Singh in 1567 AD.

• He is famous as a four-handed folk deity.

• Siddha Peeth of Kallaji is called 'Ranela'.

• Guru: Bhairavnath was there.

• Kallaji's umbrella is built near Bhairavpol of Chittorgarh Fort.

• Saffron and opium are offered daily on the black stone idol of Kallaji in Samaliya area of Dungarpur district.

• Kallaji is revered as an incarnation of Sheshnag.

Mallinath ji:

• Father's name- Rao Salkha (King of Marwar).

• Dada-Ravatida |

• Mother's name - Jinade.

• Guru - Ugamsi Bhati |

• Rathor was the king of Marwar.

• Temple - Tilwara Barmer |

• Here, starting from the next day of Holi, for 15 days (from Krishna Ekadashi to Chaitra Shukla Ekadashi), Mallinath cattle fair fills in this cattle fair, Malani breed animals are bought and sold.

• Mallinath ji was a prophet.

• Due to not paying tribute, in 1378 AD, thirteen units of the combined army of Malwa's Subedar Nizamuddin and Firoz Shah Tughlaq attacked Mallinath ji and Mallinath ji had defeated them.

Baba Tallinath:

• Real name - Gangdev Rathod.

• The son of Raja Viramdev of Marwar and Raja Rao Chunda of Mandore was the brother of Rathod.

• Tallinath ji was the king of Shergarh Jodhpur.

• Guru - Jalandhar Nath |

• Main Temple - Panchota Jalore |

• He is called the God of Oran.

• Oran - The land left around the temple from where trees cannot be cut.

Hariram Baba:

• Main temple - at Jhorda (Nagaur).

• Guru – Brown.

• The snake bambi is worshipped

• Fair - Bhadrapada Shukla Panchami.

• Serpent protector deity |

Jharra ji

• Place of Birth - Kalumand, Jodhpur.

• He was the nephew of Pabuji.

• He is worshiped as "Balaknath" in Himachal.

• He avenged the death of Pabuji by killing Jindrao Dhichi.

• Temples - Kolu (Jodhpur), Simbhudara, Naukha (Bikaner).

Veer Biggaji:

• Main Temple - Reedy Village (Bikaner)

• The total deity of the Jakhar society.

• Martyred protecting cows from Muslim looters.

Khetlaji:

• Main Temple - Sonana Pali |

• Fair - Chaitra Shukla Ekam |

• Here children who stammer are treated.

Veer Fattaji:

• Temple - Sathoon Village (Jalore).

• Fair - Every year on Bhadrapada Shukla Navami.

Baba Jhunjharji:

• Birth - Imloha village (Sikar).

• In the village of Sayalodara (Sikar), they were killed while protecting the cows, here the idols of the "bride and groom" and their three brothers are made.

• Fair - Sailodara (Sikar) on Ram Navami, the birthday of Lord Rama.

Alam ji

• Temple - Dhorimanna Barmer |

• Alam ji is called the horse protector deity.

Kesaria Kunwarji:

• Son of Gogaji.

• A white flag is hoisted in their place.

• Their snake bites suck out of the mouth and take them out.

• They are also called snake protector deities.

Mamadev:

• God of rain.

• There is no temple of Mamadeva and there is no idol. Mamadeva is worshiped in the form of a pylon.

• Buffaloes are sacrificed to please.

• Major Temple : Sayalodara (Sikar) |

• Fair - Every year on Ram Navami.

Dungji-Jawahar Ji:

• Looters of Sikar district, who used to loot money from the rich and the British and distribute it among the poor. Took an active part in the revolt of 1857.

• God of the poor |

Elogie:

• He is known as the tampering deity.

• Iloji is worshiped in Marwar on the occasion of Holi.

• His idol is in a life-size nude state.

Prajamandal Movement

- In 1928, Rajputana Native States public Council was established which laid the foundation of Prajamanda Movement in Rajasthan.
- Under the direction of Prajamandal, the National movement emerged in Rajasthan whose main aim was to get freedom from Feudalism, Kingship and British Govt.
- In the first phase of politics in Rajasthan, four names are appreciable. They are Arjunlal Sethi (1880-1941), Kesari Singh Barhat (1872-1941), Swami Gopaldas (1882-1939), and Rao Gopal Singh (1872-1956).
- Some Important Prajamandals are as follows.

1. Kota Prajamandal

- It was established by Nainuram Sharma in 1938, who resigned from the post of Inspector.
- Its first session took place in Mangalore.

2. Ajmer Prajamandal

- Under the chairmanship of Jamnalal Bajaj, Rajputana Madhya Bharat Sabha was organized in 1920 which was attended by Arjunlal Sethi, Kesari Singh Barhat, Rao Gopalsingh, Vijay Singh Pathik, etc.
- In 1921, the Second Political Conference was organized which was attended by Motilal Nehru in which foreign clothes were boycotted.

3. Jaipur Prajamandal

- In 1931, it was established by Arjunlal Sethi and Kapurchand Patni.
- In 1938, it was re-established by Hiralal Shashtri and Jamnalal Bajaj.
- On 17 March 1942, Gentleman Agreement was signed between Hiralal Shashtri and Mirza Smile, Prime Minister of Jaipur. Under this agreement, Jaipur Prajamandal will stay away from Quit India Movement.

4. Jaisalmer Prajamandal

- It was established by Mithalal Vyas.
- A member of this Prajamandal, Gopa was killed in jail.

5. Bundi Prajamandal

- It was established by Kantilal in 1931.
- Nityanand and Rishidatta Mehta were the most active member of this Prajamandal.
- In 1923, Rishidatta Mehta published a weekly newspaper names 'Rajasthan'.

6. Marwar Prajamandal

- It was established by Bhanvar Lal Sharraf in 1934.

- In 1936 Jaynarayan Vyas was disallowed to enter in Jodhpur.
- In 1937, Gagan Singh, Maharaja of Bikaner, wrote a letter to Donald Field, Prime Minister of Jodhpur to remove the ban on the entrance of Jay Narayan Vyas.
- Balmukund Bissa established Jawahar Khadi Bhandar in Jodhpur.
- Jay Narayan Vyas wrote 'Popa Bai Ki Poll' and 'Marwar Ki Awastha'.

7. Bikaner Prajamandal

- It was established by Vaidhya Mangharam in 1936 in Kolkata.
- In 1942, Raghuvar Dayal Goyal established 'Bikaner Rajya Lok Parishad'.
- On 1 July 1946, in Rai Singh town, the rally was carried out by the member of this Praja Mandal. On which police started gunfire in which Birbal Singh named boy was killed.
- Jaisalmer branch of Indira Gandhi Canal is called Birbal branch.

8. Mewar Prajamandal

- It was established by Manikyalal Verma in 1938 who was an active leader of Bijoliya Movement.
- Manikyalal Verma met Rameshchandra Ojha and Laduram Vyas and told them to establish Shahpur Prajamandal.
- Manikyalal wrote 'Mewar Ka Vartamaan Shaashan'
- In 1941, its first session took place which was attended by J.B. Kriplani and Vijaylaxmi Pandit in Udaipur.
- Nathwada was the other centre of this Prajamandal.

9. Bharatpur Prajamandal

- It was established by Gulkishor Chaturvedi in Rewari in 1938.
- Vaibhav was the name of the newspaper published by this Prajamandal.

10. Sirohi Prajamandal

- It was established by Gokulbhai Bhatt in Bombay in 1939.
- Gokulbhai Bhatt is called Gandhi of Rajasthan.

11. Baswada Prajamandal

- It was established by Bhupendranath Trivedi, Dhulajibhai and Manishankar Nagar in 1943.
- Bhupendranath Trivedi was publishing a newspaper named Sangram from Bombay.

12. Dungarpur Prajamandal

- It was established in 1944 by Bhogilal Pandya, Gaurishankar Acharya and Haridev Joshi.
- In 1935, Bhogilal Pandya established Harijan Seva Samiti.
- Manikyalal Verma established Bagad Seva Mandir in Dungarpur.

13. Some other Prajamandal are as follows in the table-

Prajamandal	Est. Year	Founder
Hadoti	1934	Nainuram Sharma
Dholpur	1934	Krishnadatta Paliwal, Mulchand and Jwala Prasad Jigyasu
Shahpur	1938	Gokullal Asawa
Alwar	1938	Harinarayan Sharma and Kunjbihari
Kishangarh	1939	Kantilal Chauthani
Pratapgarh	1946	Thakar Bappa

Modern History of Rajasthan(1707-1964)

Princely State

- There were many small princely states in Rajasthan during 1707 to 1947.
- Some important states were Jat ruler of Bharatpur, Kachhwaha ruler of Jaipur, Kachhwaha ruler of Alwar, Shekhawati Ruler, Mewar, Kota, Bundi, etc.
- Churaman of Bharatpur built Fort of Thun.
- In 1725, Badan Singh, brother of Churaman built Jal Mahal of Deeg, Kumher and Vair fort.
- Maharaja Jawahar Singh Constructed The Lahore Fort.
- The Matsya Union was the first state to be formed with the unification of Alwar, Bharatpur, Dholpur, and Karauli. Later they joined the Indian Union.
- Mirza Raja Sawai Singh holds the title of Sawai, Saramadi Raja-e-Hind, Raj Rajeshwar and Shri Rajadhiraja. He Built Jantar Mantar at Delhi, Mathura, Ujjain, Varanasi, and Jaipur. In 1727, He laid the foundation of Jaipur which was designed by Vidyadhar Bhattacharya.

Revolt of Rajasthan 1857

- During 1857 revolt George Lawrence was the Agent to Governor-General (AGG).
- On 28 May, Naseerabad was the first place where the revolt began.
- Kushal Singh Champavat led the revolt in Erinpura.
- There were six cantonments in Rajasthan Naseerabad, Devali, Erinpura, Kota, Kherwara and Beawar.
- On 21st August, revolt reached to Jodhpur region.
- Kota revolt was headed by Mehrab Khan and Jadaya Kayashion. They killed Major Barton, his two sons and a doctor on 15th October 1857 for which they were hanged on 3rd March 1858.

Reason for the failure of revolt in Rajasthan: Lack of unity and organization, no support from rulers, no definite leadership, no ammunition support, etc.,

- Maharaja Jaswant Singh I was the ruler of Bharatpur during the revolt.
- Maharaja Ram Singh II was the ruler of Jaipur during the revolt.
- Maharaja Thakat Singh was the ruler of Jodhpur during the revolt.
- Maharao Ram Singh was the ruler of Kota during the revolt.
- Maharao Swaroop Singh was the ruler of Udaipur during the revolt.

Some famous freedom fighters of this revolt

- Lala Jaydayal from Kota
- Mehrab Singh from Kota
- Thakur Kushal Singh from Jodhpur
- Suryamal Misson from Bundi Darbar as a poet.
- Rawat Keshri Singh from Mewar
- Rawat Jodhsingh from Mewar
- Tarchan Patel from Tonk

Peasant & Tribal Movement

Peasant & Tribal movement reason: Signing of treaties of Rajas with Britishers for getting relieved from Maratha and Pindari attack. This levied the extra tax on Rajas which they collect from the Peasants. Hence Peasants were facing double exploitation now.

Some Famous Peasant Movement were

Bijoliya Movement (1897-1941)

- This movement began under the leadership of Sadhu Sitaram.
- In 1916, leadership was taken by Vijaysingh Pathik.

Begun Peasant Movement (Chittodgadh, 1921)

- It was started against Lag-Baag (Cesses) and Begar (Forced Labour) system.
- Headed by Ramnarayan Chaudhary. Later by Vijaysingh Pathik.

Alwar Peasant Movement

- Two peasant movements took place in Alwar.
- The movement against Pig farming (1921): This movement was started against the tight law on killing pigs which were damaging peasant's crops.

Neemuchana Peasant Movement (1923-24)

- It was considered more dreadful than the Jallianwala Bagh massacre by Gandhiji. It was started to oppose the increased tax by the king. Almost 800 farmers gathered for a meeting in which Britishers started the open fire on Peasants in which hundreds were killed.

Shekhawati Peasant Movement (1925)

- Ended in 1946 through the medium of Hiralal Shashtri.

Bundi Peasant Movement (1926)

- It is also called Barad peasant movement.
- Headed and started by Nainuram Sharma.

Mev Peasant Movement (1931)

- It took place in the region of Alwar and Bharatpur which is also called Mewat region.
- Headed by Mohammad Ali.

Some famous Tribal movements are

- Govindgiri Movement (1883)
- Started in Baswada and Dungarpur region of Bhil tribe.
- In 1883, Samp Sabha was established for creating political awareness among the Bhil tribe.
- On 7th December, they gathered at Hills of Maangarh and police open fire on them in which 1500 tribal was killed.
- Every year a fair is organized on the day of Ashwin Shukla Purnima.

Eki Movement (1921-23):

- Headed by Motilal Tejawat.
- Reasons for the movement were interference of Britishers in their customs, extra taxes on salt, tobacco, etc.

Meena Movement (1930):

- The main reason was the Criminal tribal act of (1924) and Jarayam Pesha Kanun (1930) by British govt. in which Meena tribe was declared as the criminal tribe.
- In 1952, Jarayam Pesha Kanun was abolished.

Terms Related to Land Revenue System in Rajasthan

- The land under the direct management of the state was called Khalsa.
- The land under the feudal or granted land was called Jagir.

Land rights in Khalsa system

- Biswadar: This was hereditary and enjoyed undistributed possession on land as they continue to pay tax.
- Ryotwari System: Under this system, every registered holder is considered as the proprietor of the land and pays directly to the govt.
- Ijara System: Under this system right of collecting revenue from a particular Pargana was given to the highest bidder of the auction.

Land rights in Jagir system:

- **Jagir**: It is land granted to a feudal in which the state had no right to intervene.
- **Inam or Tankha:** It is a revenue-free grant to a person given as a salary or for its good works.
- There were many cesses also levied on farmers. They were production, cattle breeding, irrigation, nature, social cesses, etc.

Famous Freedom Fighter of Rajasthan

Motilal Tejawat:

- Started Eki movement
- He is called Messiah of Tribals.

Swami Kumaranand:

- Gave shelter to Batukeshwar Dutt after Kankori conspiracy.
- Contributed by uniting farmers.

Balwant Singh Mehta:

- Founder of Vanvasi hostel.

Laduram Joshi:

- Participated in Salt movement and August revolution.

Devishankar Tiwari:

- Contributed to the establishment of Rajasthan University, Sawai Raja Mansingh medical college and Maharani College.

Vijay Singh Pathik:

- Real name was Bhoop Singh Gurjar.
- Leaded Bijoliya Peasant Movement.
- Rajasthan Sandesh and Nav Sandesh were started by him.
- He wrote a novel Ajay Meru.

- Some other freedom fighters were Jugalkishor Chaturvedi, Balmukund Bissa, Mohanlal Sukhadiya, Haridev Joshi, Arjunlal Sethi, Ramnarayan Chaudhary, Damodar Ras Rathi, etc.

Facts After Independence:

- First Governor of Rajasthan was Mr Gurumukh Nihal Singh.
- First assembly President of Rajasthan was Mr Narrottamlal Joshi.
- First CM of Rajasthan was Hiralal Shashtri.
- First Chief Justice of Rajasthan High Court was Mr Kamal Kant Verma.
- First Lady CM of Rajasthan is Smt. Vasundhara Raje.
- First lady Minister was Smt. Kamla Beniwal.
- First Lady Governor was Smt. Pratibha Patil.

Geography of Rajasthan

Physiography of Rajasthan

Location and Expansion

- Rajasthan state is located in the North-Western part of India.
- It is located in between 23º3' to 30º12' Northern Latitude to 69º29' to 78º17' Eastern Longitude.
- Tropic of Cancer passes from Banswara-Dungarpur district.
- The western border of the state is an International border (India-Pakistan) which is 1070 Km long.
- It shares the border with Punjab and Haryana from North and North-east side, Uttar Pradesh and Madhya Pradesh from Eastern side and Gujarat and Madhya Pradesh from South and South-western border.
- Area of Rajasthan is 3, 42,239 km^2 which is 10.41 % of the total area of the country. Thus, it is the biggest in terms of area.
- Length of the state from North to South is 826 km whereas its breadth from East to West is 869 km.

Administrative Units

- After Independence, Unification of Rajasthan completed in 1956.
- Administratively, the State has been divided into 7 divisions and 33 Districts, comprising 295 Panchayat Samities, 9,891 Village Panchayats, and 43,264 inhabited villages.
- Following are the seven divisions and district included in it.
- Jaipur Division: - Jaipur, Dausa, Sikar, Alwar and Jhunjhunu
- Jodhpur Division: - Jodhpur, Jalore, Pali, Barmer, Sirohi and Jaisalmer
- Bharatpur Division: - Bharatpur, Dhaulpur, Karauli and Sawai Madhopur
- Ajmer Division: - Ajmer, Bhilwara, Tonk and Nagaur
- Kota Division: - Kota, Bundi, Baran and Jhalawara
- Bikaner Division: - Bikaner, Ganganagar, Hanumangarh and Churu
- Udaipur Division: - Udaipur, Rajsamand, Dungarpur, Banswara, Chittorgarh and Pratapgarh

Relief of Rajasthan

- Rajasthan is the biggest state of India, thus it has diversity in its physical divisions.
- Following are the nature of the reliefs of Rajasthan.

1. High Peaks

- Under this, those mountain peaks are included which are more than 900 meters in height.

2. Mountain Range

- Under this, the region having a height of 600 to 900 meter are included.
- Most of the Aravalli range falls under this.
- It is 6% of the total area of Rajasthan

3. Highlands and Plateaus

- This region has a height of 300 to 600 meter above from sea level.

4. Plains

- It is more than 51% of the total land in the state.
- It has a height of 150 to 300 meters above sea level.
- It is further divided into two parts: Desert region of Western Rajasthan and Eastern Plain.
- Eastern plains are suitable lands for agriculture

Physical Division of Rajasthan

- Rajasthan is divided into 4 physical divisions which have further sub-division.

1. **Plains of Western Desert**

- It is a special geographical region which is also called 'The Great Indian Desert' or 'Thar Desert'.
- It covers the districts like Barmer, Jaisalmer, Bikaner, Jodhpur, Pali, Jalore, Nagaur, Sikar, Churu, Jhunjhunu, Hanumangarh and Ganganagar.
- It is further divided into 4 subcategories.

Sandy Arid Region

- This is a dry region having annual rainfall of less than 25 centimetres.
- Barmer, Bikaner and western part of Jodhpur and Churu are included in this region.
- Sand Dunes are mostly found in this region.

Luni-Jawai Basin

- It is a semi-arid plain.
- Luni and its tributaries rivers flow in this region.
- Pali, Jalor, Jodhpur and Nagaur are included in this region.
- It is a river-based plain; hence it is called Luni Basin.

Shekhawati Region

- It is also called 'Banger Region'.
- Jhunjhunu, Sikar and Churu and Northern part of Nagaur are included in it.
- This is a sandy region having sand dunes of less height.
- Here the sand dunes are of the transverse type.

Plain of Ghaghhar

- Plains of Ganganagar and Hamumangarh are formed by the flow of Ghaghhar River.
- Presently, this river is considered dead because it doesn't have a flowing way.
- Ghaghhar River is the ancient river Saraswati which is disappeared.
- Thus it became a plain suitable for agriculture.

2. **Aravalli Range**

- It is the oldest mountain range in the world.
- It has a length of 692 km from Delhi to Palanpur in Gujarat.
- It is expanded in seven districts of Rajasthan: - Sirohi, Udaipur, Rajsamand, Ajmer, Jaipur, Dausa and Alwar.
- It is divided into three subcategories.

Southern Aravalli Range

- Sirohi, Udaipur and Rajsamand districts are included in it.
- There are many high peaks located in this region which include Gurushikhar (1722 mt), the highest peak of Rajasthan, located in Sirohi district of Abu region.
- Other famous peaks of these regions are Ser (1597 mt), Delwara (1442 mt), Achalgarh (1380 mt), Abu (1295 mt) and Rishikesh (1017 mt).
- The highest peak of Udaipur-Rajsamand region is Jaraga (1431 mt). Other famous peaks of this region are Kumbhalgarh (1224 mt), Lilagarh (874 mt), Hills of Kamalnath (1001 mt) and Sajjangarh (938 mt).
- Plateau of Bhorat is located between Kumbhalgarh and Godunda located northwest of Udaipur.
- Following table shows the top 5 tallest peaks of this range.

Name	Height (Meter)	District
Guru Shikhar	1722	Sirohi
Ser	1597	Sirohi

Dilwara	1442	Sirohi
Jaraga	1431	Udaipur
Achalgarh	1380	Sirohi

Central Aravalli Range

- It is mainly expanded in the Ajmer district.
- In the southwest of Ajmer, Taragarh (870 mt) and in west Naag Pahaad (795mt), is located.
- There are four Passes of Aravalli Range in the Beawar Tehsil. They are Bar, Parveriya and Shivpur Ghat, Sura Ghat and Debari pass.
- Following are some tallest peaks of this range.

Name	Height (Meter)	District
Goramji	934	Ajmer
Taragarh	870	Ajmer
Naag Pahad	795	Ajmer

Northern Aravalli Range

- It is expanded in Jaipur, Dausa and Alwar district.
- The common height of the hills in this region is 450 to 750 meters.
- Some famous peaks of this range are Raghunathgarh (1055 mt) of Sikar district, Bairath (792 mt) of Alwar district and Khoh (920 mt) of Jaipur.
- Following are some tallest peaks of this range

Name	Height (Meter)	District
Raghunathgarh	1055	Sikar
Khoh	920	Jaipur
Bhairach	792	Alwar
Barwara	786	Jaipur
Babai	780	Jhunjhunu

3. **Eastern Plain**

- This region is in the east side of Aravalli region which includes districts like Bharatpur, Alwar, Dhaulpur, Karauli, Sawai Madhopur, Jaipur, Dausa, Tonk and Bhilwara.
- This region is the River Basin region which is formed by the collection of soil by rivers.

- This region has three sub-regions.

Banas-Baanganga Basin

- This plain is formed by Banas River and its tributaries like Baanganga, Bedach, Kothari, Den, Sohadra, Manasi, Dhundha, Bandi, Morel, Vaagan, Gambhir, etc.
- This plain has the height between 150 to 300 metres above the sea level and its slope is towards east.

Chambal Basin

- This region includes districts like Kota, Sawai Madhopur, Karauli and Dhaulpur.
- Ravines (Bihad) of Chambal are located in Sawai Madhopur, Karauli and Dhaulpur.

Central Mahi Basin or Chhappan Plain

- It is expanded in the district of Dungarpur, Banswara and Pratapgarh.
- Mahi River began its journey from Madhya Pradesh and flowing through Rajasthan and Gujrat falls in the Arabian Sea.
- In Rajasthan, it flows through 'Vagad' (Local name for Laciniated land) region.
- In between Pratapgarh and Banswara, a group of 56 villages is located, thus it is also called Chhappan Plain.

4. **South-Eastern Plateau Region or Hadoti Region**

- It is expanded in the districts like Kota, Bundi, Jhalawar and Baran.
- This region has many mountains ranges having an average height of 500 meters.
- Mukundara Hills and Bundi Hills are famous spots.
- Chambal and its tributaries like Kalisindh, Paravan and Parvati flow in this region which is boon for agriculture in this region.

Aravalli ranges

- The literal meaning of Aravalli - Range of Mountains.
- Aravalli ranges were formed 4.88 billion years ago in the Agha Mahakal period (Azoic Era, Pre Paleozoic Era, Pre-Primary Mahakalp) of the Precambri era by the action of folding from the Godavan land.

(Due to horizontal movement by the earth's endogenous force, when condition of compression arises in crustal rocks, then rocks wave-like curves are formed which are called folds. The ranges formed by folding are called folded mountain ranges.)

- The Aravalli Ranges are the oldest mountain ranges in the world, which is equivalent to Appalachian Mountains of North America.
- Before Aravalli ranges, Dehli order was also an extension of rocks, which was divided into three parts in Rajasthan -

1. Alwar Group - Alwar
2. Ajabgarh Group - Sirohi
3. Rylo Group - Badmer

- Aravalli Ranges were formed due to sedimentation of the above three parts.
- The existence of the Dehli group is a new heritage so Aravalli Mountains are considered to be oldest range and mid portion of Aravalli is made of Dehli Ranges.
- At the time of formation of Aravalli its average height was 2800 meters but due to erosion with time its present height is 930 meters.
- The Aravalli Ranges are the oldest mountain ranges in the world, which is equivalent to Appalachian Mountains of North America.

Extension of Ranges

- Origin of Aravalli is believed to be in Minicoy of Arabian Sea, being submerged it is not visible so Arabian Sea is called Garbh Grah of Aravalli
- Aravalli starts from Palanpur in Gujarat and its end is considered to be at Rayalaseema (Raisina) Delhi.
- The Aravalli ranges are spread over the three states of India, Gujarat, Rajasthan, Haryana and the Union Territory of Delhi.
- About 80% part of Aravalli is located in Rajasthan.
- The total length of Aravalli is 692 km. Out of this 550 kms is located in Rajasthan.
- Extension of Aravalli ranges in Rajasthan starts from Khedbrahm (Brahmkheda) to Khetri Jhunjhunu.
- The extension of the central part of the Aravalli ranges is in Tonk - Sawai Madhopur – Karauli districts.
- The latitudinal extension of the Aravalli ranges is between $23^020'$ north latitude to $28^020'$ north latitude. The longitude range is between $72^010'$ East Longitude to $77^003'$ East Longitude.
- In Rajasthan Aravalli is extended from South West to North East direction, the height and width of Aravalli increases from North East to South West.
- The maximum width of Aravalli in Rajasthan is between Rajasmand to Banswara.
- The highest altitude is between Rajasmand to Sirohi.
- Maximum extension - in Udaipur district.
- Minimum extension – in Ajmer district.
- Highest altitude - in Sirohi district.
- Minimum altitude - in Jaipur district.
- The Aravalli mountain region is 9.3% of the total geographical area of Rajasthan and about 10% population resides in it.

Ancient and other names of Aravalli:-

- In Vishnu Purana, it is called as Sumeru Parvat / Meru Parvat / Pripatra Parvat.
- Aravalli - in Gujarat
- Meru - in geographical language
- Ada Vata - in Rajasthani language
- Adawal - in Bundi

Very important - (Adavali hill is located in Bundi but it is not a part of Aravalli)

- Dosi ranges - in Haryana
- Arbuda Devi mountain - in Sirohi

Rivers originating from Aravalli

Name	Origin
Bedas / Ayed	Gogunda Hill - Udaipur
Banas	Khamnaur Hill - Rajasmand
Sabarmati	Kotda Hill - Udaipur
Sukdi	Sojat Hill – Pali
Kothari	Diver Hill - Rajasmand
Khari	Bijrawal Hill - Rajasmand
Luni	Nag mountain - Ajmer

Characteristics of the Aravalli Hills Region

- Comparison of Aravalli –

1. Mountain - Appalachian Mountains
2. Musical Instrument - Tanpura / Tandoora
3. Body Part - ear like

- Total area of the ranges – 99771 km
- The Aravalli range is the highest mountain range situated between the Himalayan mountain region and the Western Ghats.
- The shape of northern part of the Aravalli ranges is like sheep-back and the shape of southern part is wing-shaped.
- The Aravalli ranges are part of the peninsular plateau region, which is named as the Great Indian Water Dividing Line.

(Great Indian water dividing line - 50 cm. The rain line passes parallel to the Aravallis, due to which more than 50 cm rainfall is in the east of the Aravallis and less than 50 cm in the west. The Aravalli Ranges divides river water of the Indus and Ganga rive. That's why the Aravalli is called the great Indian water dividing line.)

- The Aravalli mountainous region has predominance of granite, neas, quartzite rocks of Dharwad order. That's why Aravalli is a rich region in terms of metallic minerals like iron ore, copper, lead, zinc, tungsten, silver etc.
- It is also called the museum of minerals, here most found ones are metallic minerals.

- The Aravalli and Vindhyachal ranges cut each other at right angle at Ranthambore Sawai Madhopur.
- Colorful hills are found in Ranthambore Sawai Madhopur.
- Garasia, Damor, Bhil, Kanjar, Kathodi tribes are found in Aravalli. The Aravalli ranges are said to be the shelter of tribals in Rajasthan.
- In the Aravalli hill region aboriginal tribes are mainly practice Jhuming or shifting agriculture which is known by different names like -

1. Walra - Shifting agriculture practiced by the Garasia tribe
2. Chimata - Jhuming agriculture practiced by Bhil tribe by burning forests
3. Dajiya - Jhuming agriculture practiced by Bhil/Damor tribe by cutting down forests
4. Vatra - Shifting agriculture practiced by Sahariya tribe

- There is expansion of red soil (mountain soil, inceptisol) in the Aravalli hill region. Red soil is useful for maize.

Classification of Aravalli Hills Region

- The Aravalli mountain region, extending in about middle of Rajasthan, from south-west to north-east, is divided into three parts on the basis of height.

1. Northern Aravalli
2. Middle Aravalli
3. Southern Aravalli

Northern Aravalli – Extension Districts - Raipur, Alwar, Kar, Jhunjhunu.

- The extension of Northern Aravalli is located in Jaipur division.
- The average height of the northern Aravallis is 450 m.
- Major peaks of Northern Aravalli -

1. Raghunathgarh (Sikar) - 1055 m. (Highest peak of Northern Aravalli in Rajasthan)
2. Khoh (Jaipur) - 920 m.
3. Bharuch (Alwar) - 792 m.
4. Barwara (Jaipur) - 786 m.
5. Babai (Jhunjhunu) - 780m.
6. Bilali (Alwar) - 775 m.
7. Bairath (Jaipur) - 704 m.
8. Bhangarh (Alwar) - 649 m.
9. Jaigarh (Jaipur) - 648 m.
10. Nahargarh (Jaipur) - 599 m.
11. There is no pass in North Aravalli.

(Pass-The narrow way located between the mountains, which is also called Nal or Ghat.)

Middle Aravalli –

- Middle Aravalli is extended in Ajmer district.
- Lowest altitude range, it is a range with most cuts
- Middle Aravalli is divided into two parts

1. Low Hills of Shekhawati
2. Merwara Hills

Low hills of Shekhawati -

- The low hills of Shekhawati are lower than other hills and having the most number of valleys
- The air from these valleys moves from west to east, so these are also called **wind valleys**.
- From these valleys Desert soil moves from west to east, hence desertification is increasing, it is also called **desert march**.
- Extension- Ajmer Beawar around Sambhar

Merwara hills

- Average height of Middle Aravalli - 550 m.
- Major peaks of Central Aravalli -

1. Goramji - Ajmer - 934 m.
2. Meriyaji (Todgarh) - Ajmer - 933 m.
3. Taragarh - Ajmer - 873 m.
4. Naag mountain - Ajmer - 795 m.
5. Major Passes of middle Aravalli
6. Bar Pass - Pali (it connects Marwar and Merwara, NH-162 passes.)
7. Arnia - Ajmer
8. Suraghat - Ajmer
9. Peepli – Ajmer
10. Parveria- Ajmer
11. Shivpuri – Ajmer

- Beethli Hill (Ajmer) - Taragarh fort situated on the Beethli hill is also known as Garh Beethli.
- Bishop called Taragarh fort as Gibraltar of Rajasthan.

Southern Aravalli –

- The extension of Southern Aravalli is in Rajasmand-Sirohi-Udaipur districts.
- Average height of South Aravalli is 900 m.
- Major peaks of South Aravalli -

1. Gurushikhar - Sirohi -1722 m. (highest peak of Rajasthan)
2. Ser - Sirohi - 1597 m.
3. Dilwara - Sirohi - 1442 m.
4. Jarga - Udaipur - 1431 m.
5. Achalgarh - Sirohi - 1380 m.
6. Kumbhalgarh - Rajasmand - 1224 m.

7. Rishikesh - Sirohi - 1017 m.
8. Kamal Nath - Udaipur - 1001 m.
9. Sajjangarh - Udaipur - 938 m.
10. Saira - Udaipur - 900 m.
11. Lilagarh - Udaipur - 874 m.
12. Nagpani - Udaipur - 867 m.
13. Gogunda - Udaipur - 840 m.

- In Rajasthan the peaks of Aravalli having highest altitude are in Sirohi district. Whereas in Rajasthan the highest number of peaks of Aravalli are in Udaipur district.
- The hills of Jaswantpura are situated in the west of the South Aravalli, in the west of the hills of Jaswantpura, the high land of Ranibara is located in Jalore. The high land of Ranibara is a land without trees.
- The highest peak of the hills of Jaswantpura is Dora Parvat.
- Israna Bhakar is the highest peak of Jalore mountain.
- Jalore mountain is located near Siwana, it is also called Chappan ka Bhakar in the local language.
- Haldeshwar pilgrimage is located on these ranges.

Major Passes of Southern Aravalli

- Sarup Ghat - Pali
- Desuri Pass - Pali
- Someshwar Pass - Pali
- Kamli Ghat - Rajasmand
- Goram Ghat - Rajasmand
- Hathigudha Pass - Rajasmand
- Kewra ki Naal - Udaipur
- Debari Pass - Udaipur
- Haathi Pass - Udaipur
- Phulwari ki Naal - Udaipur
- Jeelwa / Pagalya Naal – Udaipur

Major Plateau of Aravalli

1. **Odia Plateau -**

- The highest plateau of Rajasthan located in Sirohi (1360 m height)
- Mount Abu is the highest city of Rajasthan and the highest freshwater lake Nakki is located on Oriya plateau.

2. **Abu Plateau -**

- The second highest plateau of Rajasthan (1295 m height) located at the south of the Oriya plateau at Sirohi
- The Abu plateau is an example of a betholic structure.
- Bentholic - a structure formed by deposition of magma released during volcanic action in a domed shape at great depth inside the Earth.

- From the point of view of topography, the plateau of Abu has been named Inselberg.

3. **Plateau of Bhorath -**

- Situated between Gogunda (Udaipur) to Kumbhalgarh (Rajasmand) it's a 1225 metre high plateau region.
- The third highest plateau of Rajasthan which acts as a water divisor between the Arabian Sea and the Bay of Bengal. (The highest peak of Udaipur, Jarga (1431 m) is situated on the plateau of Bhorath.)

4. **Plateau of Mesa -**
    o It is a Plateau eroded by the Berach and Gambhiri rivers in Chittorgarh
    o Chittorgarh fort is situated on the plateau of Mesa.
5. **Mandesara Plateau -** Chittorgarh
6. **Lasodia Plateau** – It is a rugged plateau area situated in east of Jayasmand Lake (the most eroded plateau of Rajasthan.)
7. **Plateau of Deshharo** – It is a plateau area which is situated between the hills of Jarga and Raga in Udaipur and remains green throughout the year.
8. **Upparmal plateau -** The plateau area situated between Bijolia to Bhaisrodgarh.
9. **Plateau of Bhomat -** It is the plateau area situated in the middle of Udaipur - Dugarpur – Banswara, where Bhomat tribe resides.
10. **Kakanwadi plateau -** Bhangarh fort of Alwar and Kakanwadi fort are situated on the plateau of Kakanwadi.

Major Mountains and Hills of Aravalli

- **Girwa-** The halfmoon-shaped or saucer-shaped hills found around Udaipur are called Girwa in the local language.
- **Bhakar** – These are the hills with steep slopes located in Eastern Sirohi
- **Mewal -** The hills situated in the middle of Dungarpur, Banswara are called Mewal in the local language.
- **Magra -** The residual hills located in the north-west of Udaipur are called Magra. For example, Magra of Makad, Magra of Banki, Kaman Magra, Lega Magra etc.

Rajasthan Climate and Natural Vegetation

Climate: Long term phenomenon taking place in the atmosphere surrounding earth is called climate. Climate is decided on the basis of average of approximate 30 years conditions.

Climate of Rajasthan: The climate of Rajasthan varies from dry to sub-humid monsoon type. The dry climate full of high daily and annual range of temperature, low rainfall, hot scorching Loo and sandstorms are the climatic characteristics of western Rajasthan whereas comparatively low temperatures, low range of temperature and slightly higher rainfall are the characteristics of sub-humid climate to the east of the

Aravallis. Latitudinal location, distance from sea, altitude above sea level, location and direction of Aravallis, soil structure and vegetative cover are the major factors which affect its climate.

Classification of Climate:

General Climate Classification-

Classification has been done on the basis of rainfall.

S.No.	Climate	Rainfall (in cm)	Physical/Geographical Area
1	Arid	0 – 20	Western Desert Area
2	Semi Arid	20 – 40	
3	Sub Humid	40 – 60	Aravalli Range
4	Humid	60 – 80	Eastern Plain
5	Maximum Humid	80 - 120	Hadoti Plateau

Individual Climate Classification-

Koppen climate classification: The Koppen climate classification divides climates into four main climate groups in respect of Rajasthan, with each group being divided based on vegetation.

S.No.	Climate Group	Climate	Vegetation	Extension
1	Aw	Humid/Maximum Humid	sawana	Banswara, Pratapgarh, Dungarpur, Kota, Baran, Jhalawar
2	BWhw	Arid	Xerophytes	Major parts of Jaisalmer, Bikaner, Minor parts of Ganganagar, Hanumangarh, Churu.
3	BShw	Semi-Arid	Steppe	Jalore, Barmer, Jodhpur, Pali, Nagaur, Sikar, Jhunjhunu, Hanumangarh and Ganganagar
4	Cwg	Sub – Humid	Monsoon	Alwar, Ajmer, Bharatpur, Boondi, Bhilwara, Karauli, Chittor, Dholpur, Dausa, Rajsamandh,Sawai Maddhopur, Sirohi, Tonk, Udaipur and Jaipur .

Note:

- BShw is Koppen's largest climatic zone.
- Dense agriculture is done in Cwg zone.

Trewartha Climate Clissification:

Basis Of Classification – Rainfall

Types – 04

S.No.	Koppen	Trewartha	Rainfall (in cm)
1	Aw	Aw	100
2	BWhw	BWhw	10
3	BShw	BShw	30
4	Cwg	Caw	70

Thronthwaite Climate Classification: Classified on the basis of Temperature, Evaporation and Rainfall.

S.No.	Climate Group	Climate	Extension
1	CA'w	Humid/Maximum Humid	Banswara, Pratapgarh, Dungarpur,Kota, Baran, Jhalawar
2	DA'w	Semi - Arid	Alwar, Ajmer, Bharatpur, Boondi, Bhilwara, Karauli, Chittor, Dholpur, Dausa, Rajsamandh, Sawai Maddhopur, Sirohi, Tonk, Udaipur and Jaipur .
3	DB'w	Mixed Climate (Arid and Semi-Arid)	Ganganagar, Hanumangarh, Churu, Bikaner
4	EA'd	Dry or Arid	Jaisalmer, Barmer and western part of Jodhpur.

- Thornthwaite Climate Classification is the most accurate climate classification.
- DA'w is the largest zone of Thornthwaite Climate Classification.

Climate Season Classification: - The twelve months period can be divided

into three main seasons in Rajasthan- summer (March - June), Monsoon (rainy) season (June - September), Autumn Season (October and November), winter (December - February).

Summer Season - With the advancement of the sun towards Tropic of Cancer in northern hemisphere in March, temperatures begin to rise. The sun shines vertically in the month of June over the Tropic of Cancer which passes through the southern part of the state. The average temperature remains between   30 °C to 36 °C in most of the state due to dry, sandy soil. At some places, day temperatures may go up to 48° Days are extremely hot. Body starts parching. Fierce loo and sand storms are frequent. Nights are pleasant. Humidity is also considerably reduced. The climatic extremities are lower in the eastern Rajasthan as compared to the west.

Loo – Hot and dry winds blowing in summer season. Major Area – Barmer district.

Dust Storm - also called sandstorm. The presence of moisture has enabled the winds to carry rain along which has created the current dust storm conditions. In Shri ganganagar dust storm blows for 27 days continuously.

Dust Cyclone – Dusty and Cyclonic winds. District – Bikaner.

Note:

- The Phenomenon of the summer season which increases Temperature – Loo
- The Phenomenon of the summer season which decreases Temperature - Dust Storm
- Most hot month of summer season in Rajasthan – June
- Most hot place of Rajasthan in summer season – Falodi (Jodhpur)
- Most hot district of Rajasthan in summer season – Churu

Rainy/Monsoon Season - The whole of the state is heated by June resulting in the reversal of pressure and wind direction. The monsoon reaches Rajasthan by the end of June or beginning of July. It receives rainfall by both- The Arabian Sea branch and Bay of Bengal branch.

Rajasthan has considerably less rainfall because of the Aravalli range lies parallel to the direction of Arabian sea branch and fails to interrupt this branch of monsoon. However, in the Southern part of Aravalli, the mountains have a slight east–west span thus Mount Abu in the south receives the highest rainfall.

- The Arabian Sea branch brings monsoon first in Rajasthan.
- Maximum rainfall in Rajasthan is brought by Bay of Bengal branch.
- Easterlies – Monsoon winds coming from Bay of Bengal in Rajasthan. They bring maximum rainfall to the eastern part of Rajasthan.
- Monsoon first arrives on 15th June in Dungarpur and departed from Rajasthan on 27th
- Maximum rainfall received by Jhalawar district and Minimum in Jaisalmer
- Average rainfall in Rajasthan – 57.50 cm

The factors that are responsible for the low rainfall despite the fact that both the branches of monsoon reach the state are as follows –

- The extension of Aravallis is parallel to the Arabian Sea branch of the monsoon which escapes northwards without providing much rain in the state.
- Moisture is considerably reduced in Bay of Bengal branch of monsoon by the time it reaches in Rajasthan.
- Low height and lack of vegetation on Aravallis are also responsible for low rainfall in the state. The southern part of the state receives more than 100 cms. rainfall due to higher elevation and dense vegetative cover

Autumn Season – Monsoon winds begin to retreat because lower pressure over land fades out and due to rise in temperature in Indian Ocean, low pressure develops there. Due to high temperature and high humidity in September and October sultriness prevails. The maximum and minimum temperature by the end of October remains at 35°C and 20°C respectively. This is the period of retreating monsoon. The winds are calm, very light and very unstable during this period.

- October heat – Increase in temperature during gap of monsoon.

Winter Season - The commencement of actual winter season in the state occurs in December because sun shines vertically over Tropic of Capricorn in the southern hemisphere. North-westerly cold winds begin to blow in the state. Light rainfall occurs twice or thrice in the state by temperature cyclones coming from west in December-January and is known as Mawath. The temperatures are less than 10°C in northern Rajasthan in January and it remains around 20°C in Hadauti area. The average temperatures in the remaining Rajasthan ranges between 10° to 20°C. The state comes in the grip of cold wave, and the temperature falls below freezing point at many places due to snowfall in Himalayan region

- **Mawath** - Rainfall in the winter season in Rajasthan is known as Mawath. The cyclones arising from the Mediterranean Sea bring rainfall in the North-West India including Rajasthan. This rainfall is a boon to rabi crop. It is good for the wheat crops, hence it is also known as "Golden Drops"
- Cold Winds comes from Himalayan region in January month whose direction is from North-East to South-West maximum benefitted to Churu district.

NATURAL VEGETATION

Natural vegetation and forests play an important role in maintaining the environmental and ecological balance. Forests help to improve local weather, prevent soil erosion, regulate river flow, and provide raw materials for a variety of enterprises. Many communities rely on forests for their livelihood, and recreational options abound. Storms have a lower velocity when they pass through forests. Forests supply industrial wood, construction wood, fuel wood, feed, and a variety of other useful and important goods. Forests acts as a shelter for animals.

Distribution of Forest: The forest cover in Rajasthan is very thin in comparison to the other states of Bharat because of its physical and climatic conditions. In Rajasthan, there are significant differences in the geographical distribution of forests -Dense Forest cover in Rajasthan is concentrated mainly in the districts of Sirohi, Banswara, Dungarpur, Udaipur, Rajsamand, Chittorgarh, Jhalawar, Kota, Bundi, Sawai

Madhopur and Alwar. More than 20% area of these districts is forested. Churu, Nagaur, Jodhpur, Jaisalmer, Barmer, and other dry and arid districts have less than 2% of their land covered with forest. Sirohi has the maximum forest coverage (31%) and minimum is in Churu (0.05%), and Jaisalmer is devoid of vegetation. Only thorny bushes and sevan grass is found in Jaisalmer. Now greenery is increasing here with the availability of water by Indira Gandhi Canal.

Types of Forests in Rajasthan

Tropical Thorny Forests - These woods can be found in dry and semi-arid areas of western Rajasthan, particularly in the districts of Jaisalmer, Barmer, Jodhpur, Pali, Bikaner, Churu, Nagaur, Sikar, and Jhunjhunu. In these woodlands, trees are little and there are a lot of stunted bushes. In these woodlands, you'll find Khejari, Rohida, Ber, Ker, and Thor trees, as well as a few bushes. Their leaves are prickly and their roots are lengthy. Due to its immense utility in the desert, Khejri is known as the Kalp Vriksha.

A number of bushes are also found in these forests. Foag, Akra, Ker, Lana, Arna and Jharber are the main bushes of this region. Aside from that, the land is home to a variety of grasses. Sevan and dhaman grasses are among the most well-known of these. Dhaman grass is high in nutrients and beneficial to dairy cattle, whilst sevan grass is good for all animals.

Tropical Dry Deciduous Forests – In Rajasthan, these forests occupy a large region. These can be found in locations with 50 to 100 centimetres of rain. In these woodlands, the following areas can be found –

1. Dry Teak Forests – These woodlands can be found at elevations ranging from 250 to 450 metres. The profusion of teak trees has given these forests their name. These forests may be found in Udaipur, Dungarpur, Jhalawar, Chittorgarh, and Baran districts. Teak trees account for 50 to 75 percent of overall forest cover. These woodlands also have Tendu, Dhawara, Gurjan, Godal, Siris, Haldu, Kher, Semal, Reetha, Baheda, and Imali trees. Teak trees cannot withstand extreme cold or frost, hence they are only found in the southern parts of Rajasthan. Teak wood may be used to make agricultural implements and construction components.

2. Salar Forests – These forests can be found on slopes with elevations of over 450 metres. These forests can be found in Udaipur, Rajsamand, Chittorgarh, Sirohi, Pali, Ajmer, Jaipur, Alwar, and Sikar districts. Salar, Dhok, Kathira, and Dhavar are the primary trees in these woodlands. Gum can be found in abundance in the salad tree. Its wood is used in the packaging industry. Salar woodlands got their name from the dominance of Salar trees.

3. Bamboo Forests – These forests are known as bamboo forests because of the prevalence of bamboo trees. In Rajasthan, these woods can be found in locations where there is a lot of rain. These forests may be found in Banswara, Chittorgah, Udaipur, Baran, Kota, and Sirohi districts. The abundance of bamboo trees has given Banswara its name. These forests also contain Dhawara, Teak, Dhokra, and other hardwoods.

4. Dhokra Forests – The Dhokra forests are found in a very large area of Rajasthan. Most of the area of Rajasthan other than desert is favourable for dhokra trees. As a result, it is widely distributed throughout the state. These are most noticeable in Rajasthan at elevations ranging from 240 to 760 metres. The

districts of Kota, Bundi, Sawai Madhopur, Jaipur, Alwar, Ajmer, Udaipur, Rajsamand, and Chittorgarh are the most affected. In Rajasthan, Dhokra is also known as Dhok. These forests constitute part of the state's main forest wealth.

5. Palash Forests – These forests grow on rocky and rough surfaces. On plateaus bordered by hills, these trees are more noticeable. These forests can also be found on stony plains and areas where the soil is hard. Jharber, Kankeri, Hingota, Harjan, and Arunj trees are Palash's companions. The districts of Alwar, Ajmer, Pali, Sirohi, Udaipur, Rajsamand, and Chittorgarh are home to these woods.

Sub-Tropical Mountain Forest – These forests are mainly in Mount Abu area. These include evergreen and semi-evergreen vegetation. It contains dense vegetation. Mango, Bamboo, Neem, Teak trees etc. are found in these forests. These forests are found in less than 0.5% of the total forested area of Rajasthan.

Administrative Classification of Forests -

The forest resources of Rajasthan have been divided into three divisions based on administrative set-up.

Reserved Forests – These are state owned forests in which cutting of trees and grazing is prohibited. These forests are in 38 % of the forest area.

Protected Forests – These forests are also under government control. Tree cutting and grazing may be done with permission. These forests are found on 51 percent part of the total forested area of the state.

Unclassified Forests – Tree cutting and grazing are not regulated by the government in these areas. This category includes the remaining 11% of the state's forested area.

MINERALS AND MINES

Minerals are such naturally occurring substances that are present below the surface of the earth. The process, by which we exploit these minerals from below surface, is known as mining. Minerals are found in mixed forms with other elements in nature. Such mixtures are called 'ores'.

More than 3000 kind of minerals are present on the earth. Minerals, having an extract of metals in original form, are called metallic minerals. The minerals having no extract of metals are called non-metallic minerals. Minerals which provide energy, are called Energy minerals.

Rajasthan is a prosperous state in terms of minerals. Due to availability of various minerals in Rajasthan, it is known as the 'museum of minerals'. Approximately 67 minerals (44 main and 23 minor) are mined in Rajasthan. Rajasthan has a contribution of 22% in the total minerals production of the country. In terms of mineral wealth, Rajasthan stands at the second place after Jharkhand. From the view point of mineral production, Rajasthan ranks at the third place after Jharkhand and Madhya Pradesh. In terms of minerals, the Aravali Mountains and the south eastern plateau region are prosperous in the state, Due to the discovery

in the past few decades, ample energy resources such as petroleum and natural gas have been found in the western part of the state. The state has monopoly in the production of such minerals a Wollastonite, Jasper, Emerald, Rock phosphate etc.

MINERAL BASED INDUSTRIES:

The mineral resources of the state provide a large variety and have great potentiality for the establishment of more mineral based industries.The commissioning of Zinc Smelter at Debari and the Cement Plant at Chittorgarh' are the recent land-marks in the development of mineral based industries in the State. With the start of production at Khetri, the State will have the biggest · copper complex in the country. Similarly the proposed fertilizer complex, utilizing Saladipura pyrites and Udaipur Phosphate rock, will be a milestone in the industrial development of the state and will provide opportunity for ancillary industries also. Development of mineral resources of the State has increased the scope both for big and small mineral based industries. There are many potential areas in the state where new cement plants can come up. Once the Khetri plant is commissioned and production of by-production sulphuric acid starts many industries using sulphuric acid as a raw mate· rial will come up. The mining and beneficiation project for fluorspar at Mando-ki-Pal will produce acid grade concentrates and provide avenues for chemical industries to come up. Ceramic unit_ and clay washing plants can be established in the state with its abundant resources of ceramic minerals. Similarly production of high quality decolorizes and bleaching -clays can be started by setting up an activation plant for fuller's earth found in. the State. With barytes and sulphuric acid both available hear Udaipur; lithopone unit can also be set up.

Classification of Minerals:-

1. Metallic Minerals- Metallic minerals are minerals which contain one or more metallic elements.These are of two types Ferrous and Non-Ferrous minerals. Ferrous minerals are metallic minerals containing iron. While non-ferrous minerals are also metallic, but they do not contain iron.

A. Ferrous minerals – chromium, cobalt, Iron, Manganese, Nickel, Tungsten and Titanium etc.

B. Non-Ferrous minerals- Gold, Silver, Platinum, Lead, Zinc, Copper, Tin, Magnesium, Mercury etc.

2. Non Metallic Minerals- Non-metallic minerals are those which do not yield new products on melting. They are not so hard and have no shine or luster of their own. When hit, they may get broken into pieces. e.g. Mica, Gypsum, Stone, Clay, Energy minerals etc.

Minerals Rocks (Rajasthan's perspective):-

Dharwad Series Rocks- Dharwar Rock System is special because it is the first metamorphic sedimentary rocks in India. They are named Dharwar system because they were first studied in Dharwar region of Karnataka. But they are also found in Aravallis, Tamil Nadu, Chotanagpur plateau, Meghalaya, Delhi, and the Himalayas region.

- Found in Aravali in Rajasthan

- Maximum Metallic Minerals
- Most expensive Rocks
- g.- Gold, Silver, Iron

Vindhyan Series Rocks- Sandstone (maximum), Red stone, Kota stone and

Limestone.

Sedimentary Rocks- Sedimentary rocks are types of rock that are formed by the accumulation or deposition of mineral or organic particles at the Earth's surface, followed by cementation. Example Coal, Petroleum, Natural gas.

Minerals found in Rajasthan:

ARAVALI MOUNTAIN RANGE-

1. Copper: Rajasthan holds the first place in the base-metal field and in the years to come it will not only maintain its place but will also figure in the international map of the centres 'or activity in respect of working and winning of these metals. It is hoped that the increase in the tempo of base metal exploitation will go a logway y in curtailing the ever-increasing drain of our foreign exchange resources. The Khetri copper deposits, although they had a long tradition of being worked since the Mughal times, can well be taken· as a recent discovery. Their full potential as a major mineralised belt has come to light only through recent scientific exploration. The belt, as our present knowledge indicates, extends from Singhana to Raghunathpura and several economic deposits of copper andiron pyrites have been located in this belt. While the exploitation of the bigger deposits of copper as well as iron pyrites has been taken up, some of the smaller copper deposits still await effective utilisation. Similarly the investigation for copper in the Alwar district has brought to light two Small deposits of copper.

It is Non ferrous metal, mostly found in the veins of the igneous and metamorphic rocks. The copper is malleable and ductile and good conductor of electricity. Rajasthan is on second place in country in production of copper.

Copper mines found in Rajasthan are -

- Khetri- singhana (Jhunjhunu)
- Banno Baalo ki Dhani, Neem ka thana (sikar)
- Kho- Dariba (Alwar)
- Pur-Agucha, Gulabpura (Bhilwara)
- Anjani, Salumber (Udaipur)
- Bidasar (Churu)

Production – Hindustan Copper Limited (HCL) under Ministry of Mines.

2. Iron Ore- India is endowed with fairly abundant resources of iron ore. It has the largest reserve of iron ore in Asia. The two main types of ore found in our country are haematite and magnetite. The iron ore

mines occur in close proximity to the coal fields in the north eastern plateau region of the country which adds to their advantage.

Deposits of Iron-ore in Rajasthan-

- Morija-banol (Jaipur)
- Neemla-Raisela (Dausa)
- Dabla-singhana (Jhunjhunu)
- Nathara ki Pal, Thur Hunder (Udaipur)

3. Lead-Zinc and Silver: Rajasthan has monopoly in production of lead-zinc. In Rajasthan, the deposits of lead zinc are found in the Achaean and protozoic era rocks. The production of silver is in the form of mixed metal with lead and zinc. The setting up of zinc smelter at Debari is a land-mark in our efforts to cut down the base: metal imports. The sulphuric acid obtained as by-product is used to produce superphosphate. Another by-product is cadmium.

Deposits and Mines in Rajasthan-

- Zawar, Debari (Udaipur)
- Rajpura-Dariba (rajsamand)
- Rampura-Agucha, Gulabpura (Bhilwara)
- Chouth ka Barbara (Sawai Madhopur)
- Gudda- Kishoridas (Alwar)

MINERAL DEPOSITS IN WAGAD BELT-

Diamond: Diamond is a type of carbon that has its atoms arranged in a diamond cubic crystal structure. Another solid form of carbon known as graphite is the chemically stable form of carbon at ambient temperature and pressure, but diamond almost never transforms to it. Any natural material with the maximum hardness and thermal conductivity is diamond. The only diamond mine in Rajasthan is Kesharpura (Rajasamand).

Gold is a thick, soft, malleable, and ductile metal that is bright, somewhat reddish yellow in colour. Gold is a transition metal in chemistry. It's one of the least reactive chemical elements, and it's solid at room temperature.

- Jagpura – Bhikhia (Banswara)
- Anandpura – Bhukhia (Banswara)
- Ghotiya amba (Banswara)

Manganese: Manganese ore deposits of low grade occur in Banswara district. It is a hard brittle silvery metal, often found in **minerals**in combination with **iron**. Manganese oxide is used as an oxidising agent, as a rubber additive, in glass making, fertilisers, and ceramics. Manganese sulfate can be used as a fungicide.

- Leelwani (Banswara)
- Kalakhunt (Banswara)
- Talwara (Banswara)

Fluorite: The deposit is now belonging exploited by the Rajasthan Industrial and Mineral Development Corporation. It crystallizes in isometric cubic habit, although octahedral and more complex isometric forms are not uncommon.

- Mando ki Pal (Dungarpur)

CLAY MINERALS

Clay minerals are the characteristic minerals of the earths near surface environments. They form in soils and sediments, and by digenetic and hydrothermal alteration of rocks. Water is essential for clay mineral formation and most clay minerals are described as hydrous alumina silicates. Clay found in Rajasthan are-

- China clay – Bikaner
- Bal Clay – Bikaner
- Fire clay- Bikaner
- Fuller's clay/Bleaching clay- Barmer
- Silica sand- Boond and Jaipur

STONE MINERALS:

Marble- Stones have been significant in human life since ancient times. Different kinds of building and decorative stones are used today in building construction industry. Amongst them, marble is an important stone. Rajasthan has monopoly in the production of marble. The marble of Makrana in Rajasthan is world famous. The Agra Fort, Taj mahal and Victoria Palace are built with the marble of Makrana.

Different kinds with varying colored marble stones are found in the Rajasthan state-

- White Marble – Makrana (Nagaur)
- Black Marble – Bhaislana (Jaipur)
- Green Marble – Udaipur
- Pink Marble – Jalore & Banswara
- Yellow Marble – Jaisalmer
- Rainbow coloured Marble – Pali

Limestone- Vindhyan, Aravalli, Ajabgarh and Raialo, all these geological formations have contributed quality limestone occurring in various parts of the state· Three cement plants at Lakheri, Sawai Madhopur and Chittogarh have. been in production and three more cement plants near Nimbahera in Chittorgarh district, near Beawar in Ajmer district.

- Cement grade – Chittorgarh

- Chemical grade – Nagaur and Jodhpur
- Steel grade – (Sonu region) Jaisalmer

MINERALS FOUND ONLY IN RAJASTHAN:

- Garnet /Blood stone – Tonk, Ajmer and Bhilwara
- Ochre – Chittorgarh
- Jasper – Jodhpur
- Emerald – Kala Guman Mines (Rajsamand)
- Wollastonite – (Bel ka magra) sirohi.

ATOMIC MINERALS:

- Uranium – Khandela (Sikar), Umra (Udaipur)
- Thorium – (Sardarpura) Bhilwara, Bhadrvan (Pali)

TUNGUSTEN: Tungusten is obtained from wolframite ore. It is mainly found with granite and pegmatite rocks. It is a highly strategic important mineral. It is used in making electric bulbs, strengthening steel, metal cutting tools and making arms of strategic importance. In addition to it is used in X-ray, Radio and Television equipments and dying and printing industries.

The main deposits of Tungsten are found in Rewat and Bhakri of Degana of Nagaur district and Balda area of Sirohi district is done by Tungsten Development Department of Rajasthan state.

In addition to this, deposits of Tungsten in Amaritya of Dungarpur district, Kun of Udaipur district, Barathia in Pali and Ladera-sukun area of Ajmer district. The state produces 75% of total Tungsten of the country.

GYPSUM: In India the maximum quantity of gypsum is found in Rajasthan. It is a layered mineral.There are great possibilities for the development of this mineral in state. The maximum use of this mineral is in making fertilizer. Besides this, it is also used in making plaster of paris, cement, paint, acid, ammonium sulphate etc. It is mined at four major areas in Rajasthan-

- Bikaner- Jamsar, Lunkaransar
- Nagaur- Bhadwasi, Goth-Manglod, Mangol
- Jaisalmer- Mohangarh
- Barmer- Hamirwali

ENERGY MINERALS;

Petroleum- Petroleum is the second important source of energy after Coal. Petroleum is used in means of transport and production of energy. The presence of petroleum is possible only in sedimentary rocks. Mineral oil is a mixture of hydro-carbon compounds. Petroleum was formed due to organisms living in sea being pressed between the sedimentary rocks in the geological age.

In Rajasthan, Sedimentary rocks are found in Bikaner, Jaisalmer and Western Jodhpur. The reserve of Petroleum are found these rocks. The Gudamalani area of Barmer is a major area of mineral oil reserve. Large reserve have been found in Barmer-sanchor basin the Cairn Energy India Limited of Britain has got the permission of mining the oil in 'Nagar" village and Mamiyo ki Dhani of Gudamalani tehsil. This oil well has been named 'Rageshwari'. 31 wells have have been drilled including the 'Mangla' well in the Barmer-sanchore Basin. Tanot, Ghotaru, Dandewala, Sadewala, Manihari Tibba and Longewala are the major areas of mineral oil in Jaisalmer.

Petroleum storage Basins and oil mined companies in Rajasthan are-

- Barmer-Sanchore Basin – Cairn Energy
- Rajasthan Self Basin – ONGC and PDVSA
- Bikaner-Nagaur Basin – IOCL and ESSAR
- Hadoti/Vindhyan Basin – ONGC and Cairn Energy.

Natural Gas- Natural Gas was discovered in Focus Energy's exploration block, around 25 km from the Pakistan border, in the same stratigraphic area as the one producing multi-trillion cubic feet fields of Sawan and Miano.

COAL- Coal is a one of the important minerals which is mainly used in the generation of thermal power and smelting of iron ore. Coal occurs in rock sequences mainly of two geological ages, namely Gondwana and tertiary deposits.

In addition, Lignite Coal have been Produced in Rajasthan –

Kapoordi, Jalipa, Giral, Bhadres in Barmer and Palana in Bikaner are the major mines of Lignite Coal in Rajasthan.

Rajasthan Census 2011

- The Census done in 1872 at the time of Lord Mayo is considered as the first Population Census of India. While at the time of Lord Rippon, the first Population Census of India was done in 1881 with the managed standard. The first Population Census of Independent India done in 1951. Census 2011 was 15th from 1872 and 7th since after the independence. The Census is described in the 7th

- The Population of India is 1,210,193,422 on reference date 01 March 2011 of the Census 2011. The population of Rajasthan has become 6,85,48,437 on the same date. The percentage of the total population of the country is 5.67%. According to Census 2011, from the total population of Rajasthan, 75.11% population live in a rural area and 24.89% population lives in an urban area. The Percentage of the female population in the State is 48.10%.
- The Administrative Setup of Rajasthan as per Census 2011:
- Number of Districts-33
- Number of Sub-divisions in the State-192
- Panchayat Committees-248
- Tahsils-244
- Nagar Palika-185
- Gram Panchayat-9177
- Total Villages-44,672
- Towns and Cities-297
- Number of Divisions-7

FEATURE	RAJASTHAN	HIGHEST	LOWEST	OTHER FACT
Population	6.85 crore	1. Jaipur 2. Jodhpur 3. Alwar	1. Jaisalmer 2. Pratapgarh 3. Sirohi	An increase from figure of 5.65 crores in 2001. The rank of the state in the country is at 8th position.
Decadal Growth Rate	21.31%	1. Barmer (32.55%) 2. Jaisalmer 3. Jodhpur	1. Ganga Nagar 2. Jhunjhunu 3. Pali	Rajasthan is at 11th position in the country from point of Decade growth rate
Population Density/km2	200	1. Jaipur (595) 2. Bharatpur 3. Dausa	1. Jaisalmer (17) 2. Bikaner 3. Barmer	The density of population is more in the Eastern and Southern part of the state and comparatively less in Western and Northern part.
Sex Ratio	928	1. Dungarpur (994) 2. Rajsamand 3. Pali	1. Dholpur (846) 2. Jaisalmer 3. Karauli	The sex ratio has increased by 7 numbers in the Census 2011 in

				comparison to 921 of 2001. The sex ratio of the state has been increasing regularly since 1991.
Literacy	Overall-66.1% Male-79.2% Female-52.1%	Overall- 1. Kota (73.5%) Male- 1. Jhunjhunu (86.9%) Female- 1. Kota (65.9%)	Overall- 1. Jalore (54.9%) Male- 1. Pratapgarh, Banswara (69.5%) Female- 1. Jalore(38.5%)	Since 2001, there is an increase in overall Literacy Rate as well as Female Literacy level.
Area	3,42,239 km^2(10.40% of the country) 1st Rank in the country as per the area	Jaisalmer (38401 km^2)	Dholpur(3033 km^2)	The Length from East to West is 869 km. The Length from North to South is 826 km. The Land boundary of the state or entire circumference.
Child Sex Ratio (0-6-year age)	888 (15.54%)	Banswara (934)	Jhunjhunu (837)	More downfall has occurred in female population comparatively to male population 0-6 age class in all the districts of the state except Churu and Dungarpur
Scheduled Caste Population	17.8% (12,221593)	1. Jaipur 2. Ganganagar 3. Nagaur	1.Dungarpur 2.Pratapgarh 3. Jaisalmer	A slight increase in SC population of 0.6% compared to Census 2001 (17.2%)
Scheduled Tribes Population	13.5%	1. Udaipur	1. Bikaner	An increase in ST population of 0.9%

| | (9,238,534) | 2. Banswara | 2. Nagaur | compared to Census 2001 (13.5%) |
| | | 3. Dungarpur | 3. Churu | |

Industrial Sector

Industrialisation is considered one of the foremost modus to stimulate the overall growth of the country. Additionally, Development of industries has the vast potential of providing substantial employment and generating the income and improving the standard of living and over all well-being of the people. At the time of Independence, the state had inherited poor status in respect of development of industries. Until 1960, Rajasthan virtually had no place on the industrial map of India.
Some strategies were worked out to increase investment in public sector industries and to promote private sector investment in different districts, which gradually led to the development of industries in the state. In terms of production value, the textile industry, dominates the large and medium category of industries. This is followed by industries catering to agro-based, food and allied products; cement and cement products: chemical gases , lubricants and plastic; heavy machinery ; metal allied products, automobile parts and machine tools parts; electrical and electronics –related products; minerals , stones and lime; drugs and pharmaceuticals ; ceramics and glass wares; and leather and footwear.
The state is almost the sole producer in the country of certain minerals like wollastonite, zinc and copper. Besides this, it is also a leading producer of crops such as mustard, bajra, barley, maize, cotton and spices. There is also a huge population of livestock that sustains the livelihoods of several communities across the state.

Contribution within Industrial Sector:
1. Manufacturing – 35.28 %
2. Construction – 11.73%
4. Mining - 23.79%
4. Electricity, Gas & other Utility Services – 29.18%

Contribution of Industries in Employment:
In 1960-61, total employment in industries and mines was estimated at 6.2 lakh (i.e., 8 per cent of the total number of workers) and this increased to 10.26 lakh by 1998-99, a rise of 64 per cent. Currently, the services sector employed 47% of the state's population, followed by the agriculture (44%) and Industrial (8%) sector. Hence, though growth in Industrial sector may appear impressive, industry's percentage share in total employment is not significant.

Industries on Basis of Products:
1. **Basic Goods Industries:**
   - Cement, basic chemicals, Steel, fertilisers, electricity, copper, zinc etc.
2. **Capital Goods Industries**
   - Industries that produce machinery required for industries, transport equipment etc.
   - Hindustan Machine Tools (Ajmer), Instrumentation Ltd (Kota).
3. **Intermediate Goods Industries**
   - Industries that produce goods used as raw materials by other industries.

- Tyres (JK Tyre, Kankroli), Cotton yarn

4. Consumer Goods Industries
- Consumer goods are of two types: Durable (exist for long-time, do not need to purchase frequently) & non-durable goods.
- Durable goods: Scooters, Automotive units
- Non-durable: Edible Oils, Agro-based

Rural Industries: Cottage & Handicrafts of Rajasthan:
Handloom and handicrafts constitute the largest part of Indian cottage industries. Handicrafts help preserve traditional art and culture, while the handloom sub-sector is an important source of employment generation. Handlooms, handicrafts, khadi and village industries constitute an important part of the non-formal sector of Rajasthan's economy.

Major Industries
Rajasthan is home to several key industries which are engaged in production of goods like cotton cloth, cotton yarn, cement, sugar, urea, zinc-ingots, ball-bearings, edible oils, salt, copper cathodes etc. All of these Industries, do not belong only to large scale Units but may also belong to Small or medium scale units but they play a key role in economy of Rajasthan in terms of Revenue, employment etc.

1. Cement
• Rajasthan has 24 major cement plants, having a total capacity of 55 million tonnes per annum (MTPA). It is the largest cement-producing state in India.
• The state has about 17% share in cement grade limestone reserves of India. Gypsum is also available in the state but coal is imported from outside the state.

2. Mining & Minerals
• Rajasthan has deposits of 81 different types of major and minor minerals. Out of these, 57 minerals are being currently mined.
• Rajasthan is the sole producer of:
- Lead & Zinc ores,
- Selenite
- Wollastonite
• Rajasthan is leading producer of:
- Silver
- Calcite
- Gypsum
- Ball Clay
- Feldspar
- Silver
- Rock Phospate
- Steatite
- Red Ochre
- Steel & Cement grade limestone

3. Auto and Auto Components

- Alwar and Jaipur districts are close to major auto production hubs of the country such as Noida (Uttar Pradesh), Gurgaon and Dharuhera (Haryana); offering excellent advantages for setting up of auto and auto ancillary units.
- Over 100 units are currently functional in Bhiwadi, Neemrana and Pathredi in Alwar district, Rajasthan. These are the 3 main auto clusters in Rajasthan.
- Neemrana–Japanese zone: A 1,167-acre industrial area in Neemrana has been developed especially for industrial units from Japan. Automotive units of Nissin Brakes, TPR Auto parts, Takata India, Nippon Steel, Toyota Gosei, Mikuni India and Toyota Kirloskar Motor are present in this zone.

4. **Textile**
   - Rajasthan has a leading position in the production of polyester viscose yarn and synthetic suiting material as well as processing of low-cost, low-weight fabric (at Pali, Balotra, Sanganer and Bagru).
   - Bhilwara has emerged as India's largest manufacturer of suiting fabrics and yarn.
   - Jaipur is a well-known centre for manufacturing garments, primarily for exports.

5. **IT Sector**
   - Rajasthan is emerging as one of the best locations in India to invest in the IT/ITeS sector.
   - IT parks with special infrastructure have been set up at Jaipur, Jodhpur, Udaipur, Kota and Alwar.

6. **Agro-based industry**
   - Rajasthan is the largest producer of rapeseed, bajra, guar seed, spices such as fenugreek, coriander, cumin, fennel and mustard.
   - It is the second largest producer of oilseeds and spices and the third largest producer of soyabean and coarse cereals in India.

7. **Chemicals**
   - The key chemicals produced in Rajasthan include fertilisers, caustic soda and pesticides.
   - The principal industrial complexes for chemicals are at Jaipur, Kota, Udaipur and Bhilwara.

8. **Gems and jewellery**
   - Rajasthan is a store house of many precious and semi-precious stones such as emeralds, aquamarines, heliodors, corundums, diamonds, epidotes, topazes, tourmalines, amethysts, crystal quartzes, garnets, and green and blue quartzites.
   - Rajasthan is the largest production centre of coloured precious and semi-precious stones as well as the largest manufacturer of cut and polished diamonds in the country.
   - The state has a wide pool of skilled manpower along with several training institutions.

9. **Steel**
   - Rajasthan's steel industry comprises re-rolling and stainless steel units located mainly in Jodhpur, Alwar and Jaipur.
   - Most of the re-rolling units belong to the small scale sector.

10. **Ceramics**
    - Rajasthan has abundant slip clay, pottery clay, retort clay, terracotta clay, pipe clay, bleaching clay, bonding clay etc., which are used for manufacturing bricks, tiles, statues, insulators, porcelain (via a mixture clay with felspar and quartz) etc.
    - Glass and ceramic units are among the thrust sectors identified in the 1988 Industrial Policy.
    - Units are concentrated in Jaipur, Bikaner, Bhilwara, Abu Road and and Bhiwandi.
    - Rajasthan is a major producer of felspar, quartz and bentonite, which are the raw materials for Ceramic Industry.

11. **Salt**

- Rajasthan is the third largest producer of salt (sodium chloride) in the country and accounts for the country's one-tenth of salt production.

12. Energy

- Highest solar energy potential in India - 142 GW
- Rajasthan shines on the solar map of India with 300-330 clear sunny days, comparable to deserts of California and Nevada.
- Within the state, the districts such as Barmer, Bikaner, Jaisalmer and Jodhpur are the key regions with the best solar radiation.
- Rajasthan is endowed with two critical resources that are essential to solar power production: high level of solar radiation (6-7 kWh/ m2/ day) and large tracts of relatively flat, undeveloped land.
- Rajasthan has wind energy potential of 18.7 GW

13. Marble

- Rajasthan as a state accounts for 90% of India's marble, slate and sandstone production and has a monopoly in other ceramic minerals.

Departments & Organisation in Rajasthan for development of Industries

Bureau of Investment Promotion (BIP): BIP is the nodal agency for investments of more than 10 crore under the Single Window System. As a core responsibility to promote Rajasthan as an investment destination, BIP participates & organises key conferences throughout the year including the Resurgent Rajasthan Summit.

Rajasthan State Industrial Development and Investment Corporation (RIICO): RIICO is an apex organisation engaged in fostering the growth of industrialization in the State. The mission of RIICO is to catalyze planned and rapid industrialization of Rajasthan. RIICO has set up 28 Regional Offices all over Rajasthan to administer the development and management of the industrial areas.

Rajasthan Financial Corporation (RFC): The basic object of fostering financial needs for setting up of new industries, expansion and renovation of existing one, upto 20 crore. RFC provides medium- and long-term loans for new industrial units in the SME sector.

Rural Non-Farm Development Agency (RUDA): Rural Non-Farm Development Agency (RUDA) was established in November, 1995 by the Government of Rajasthan as an independent agency to promote the Rural Non-Farm Sector (RNFS) in the state.
RUDA carries out its activities in 3 major sub sectors which are as follows:
1. Leather
2. Wool & Textile
3. Minor Mineral (SCP)

Rajasthan Khadi & Village Industries Board: Board was established to provide employment to artisans of unorganized sector, to provide help in production of high quality products, to provide training to artisans, and to inculcate the feeling of self-reliance. Rajasthan Khadi & Village Industries Board has played important role in providing self employment in rural areas of Rajasthan.

Rajasthan State Handloom Development Corporation (RHDC): Rajasthan State Handloom Development Corporation was constituted in 1984 with the main objective to promote the cotton

handloom textile sector of Rajasthan. It plays a pivotal role in skill upgradation, design & development and market facilitation or traditional weavers and artisans of the state in modern techniques.

DMIC Development Corporation (DMICDC), Rajasthan:
Based on the strengths of specific regions across the state, five development nodes are identified in the influence area of DMIC. It includes two investment regions and three industrial areas. Proposed project components in each of the nodes are:
A: Khushkhera-Bhiwadi-Neemrana: Investment Region
B: Ajmer-Kishangarh Investment Region
C: Jaipur-Dausa Industrial Area
D: Rajsamand-Bhilwara Industrial Area
E: Jodhpur-Pali-Marwar Industrial Area

Manufacturing cities developing by DMIC in Rajasthan –

1. **Khushkheda-Bhiwadi-Neemrana Investment Region**- Khushkheda-Bhiwadi- Neemrana Investment Region is having an area of about 165sq. kms and encompassing 42 villages of Alwar district. The detailed Development Plan for Khushkheda-Bhiwadi- Neemrana Investment Region has been prepared and finalized.
2. **Jodhpur-Pali-Marwar Industrial Area (JPMIA)-** Jodhpur-Pali-Marwar Industrial Areais being developed in the area close to 154 sq. kms, encompassing 9 villages of Pali district.

River System and Lakes of Rajasthan

River System of Rajasthan

- Chambal and Mahi are the perennial rivers of Rajasthan.
- The river drainage system of Rajasthan is decided by the Aravalli Range which works as divides the rivers of Rajasthan into two parts.
- On the basis of this Rivers are divided into 3 groups.

1. Rivers that drain in the Bay of Bengal

Chambal River

- In ancient times, it was called "Charmanyavati".
- It originates from Janapao Hills near Maanpur in Mahu, Madhya Pradesh.
- It enters Rajasthan near Chaurasigarh and makes the border of Kota and Bundi.
- It passes through Sawai Madhopur, Karauli, and Dhaulpur and finally meets in Yamuna River.
- Gandhisagar, Jawaharsagar, Rana Pratap Sagar Dam, and Kota Barrage Dam are built on this river.
- Banas, Kalisindh, and Parvati are its tributaries.

Banas River

- It originates from Khamnore Hill near Kumbhalgarh.
- It travels through Gogunda Plateau, Nathdwara, Rajsamand, Rel Magara, Chittorgarh, Bhilwara, Tonk, and in Sawai Madhopur, it joins the stream of Chambal River.
- It is also called 'Hope of Forest (Van Ki Asha)'.
- Bedach, Kothari, Khari, Mainal, Bandi, Dhundh and Morel are the tributaries of Banas River.

Kali Sindh River

- It originates in Dewas in Madhya Pradesh.
- It passes through Jhalawar and Baran districts and meets the Chambal River in Nanera.
- Paravan, Ujaad, Niwaj, and Aahu are its tributary rivers.

Parvati River

- It originates in the Sihor region of Madhya Pradesh and flows in Baran and meets the Chambal River near Paliya, Sawai Madhopur.

Vapani (Bahyani) River

- Originates near Haripura village of Chittorgarh district and meets Chambal near Bhaisroadgarh.

Mez River

- Originates from Bhilwara and meets Chambal near Lakheri in Bundi.

Baanganga River

- It originates from Bairath Hills of Jaipur district.
- Then it moves towards the east in Sawai Madhopur and then in Bharatpur meets in the Yamuna.

2. Rivers that drain into the Arabian Sea

Luni River

- It originates from Naag Hills of Ajmer, after that it moves towards Jodhpur, Pali, Barmer, Jalore and enters in Gujarat in Kutchh.
- It travels almost 320 km.
- Its water is sweet up to Balotara and then it becomes salty.
- Jawai, Liladi, Mithadi, Sukhadi, Badi and Saagi are its tributaries.

Mahi River

- It began its journey from Mahu Hills of Madhya Pradesh and enters Rajasthan in Banswara district.
- It forms the border between Banswara and Dungarpur and enters Gujarat and ends its journey in the Gulf of Khambhat (Cambay).

- Mahi Bajaj Sagar Dam is constructed on this river near Banswara.
- Its main tributaries are Soma, Jakham, Anas, Chap, and Moren.

Sabarmati River

- It originates near Udaipur and flows in Sirohi and then enters in Gujarat and ends its journey in the Gulf of Cambay.
- At the initial stage, it is called the Vakal River.

3. Inland Rivers

Katali River

- It originates from the Khandela Hills of Sikar district.
- It travels 100 km and flowing from Sikar and Jhunjhunu, disappeared in the desert land.

Sabi River

- It originates from Sevar Hills and flows in Banasura, Bahrod, Kishangarh, Mandavar and Tijara, and disappeared in Harayana.

Kakani or Kakneya River

- Originates from Kotari village and disappear after traveling some distance.

Ghaghhar River

- It is considered the oldest river of India, i. e. Saraswati.
- It flows from Harayana to Hanumangarh, Ganganagar Suratgarh, Anupgarh and enters in Pakistan.
- It is also called Dead River.

Lakes of Rajasthan

- In Rajasthan, Lakes are divided into two categories

1. Saltwater Lake and
2. Fresh (Sweet) Water Lake

1. Salt Water Lakes

Sambhar Lake

- It is India's largest inland Salt Water Lake.
- It has been designated as a Ramsar site because this wetland is a favorite spot for migratory birds like Pink Flamingo.

- The total area of the lake is 150 km^2.
- The lake receives water from five rivers Medtha, Samaod, Mantha, Rupangarh, and khandel.

Didwana Lake

- It is located in Nagaur district.

Pachpadra Lake

- It is located in the Barmer district.

Lunakarnasar Lake

- It is located in Lunakarnasar, 80 km away from Bikaner.

Some other famous Salt Water Lakes are Faloda, Kuchaman, Kovaad, Kachhor, Rewasa, etc.

2. Fresh (Sweet) Water Lake

- Due to the scarcity of water in Rajasthan, these freshwater lakes act as boons for the people of Rajasthan.
- Following are some important Fresh Water Lakes of Rajasthan

Jaisamand Lake

- It was constructed by MaharanaJaising by building the dam on the Gomati River from 1685 to 1691.
- It is located 51 km southeast of Udaipur.
- It is also called Dhebar Lake.
- It is the biggest natural lake in Rajasthan.

Rajsamand Lake

- It was constructed by Maharana Raj Singh in 1662.
- On the bank of this, lakes many inscriptions are there which tell about the history of Mewar.

Pichhola Lake

- It has two islands.
- One has Jag Mandir (Temple) and the second has Jag Nivas named palaces.

Fateh Sagar Lake

- It was constructed by Maharana Fateh Singh near Udaipur city.

Anasagar Lake

- It was constructed by Anaji in Ajmer.
- On its bank, there's a garden called "Daulat Baug".

Pushkar Lake

- It is located in the Ajmer district surrounded by mountains.
- It's a religious spot.

Silisedh Lake

- It is located in the Alwar district in between Aravalli Range.

Some other famous lakes are Navlakkha Lake (Bundi), Kolayat Lake (Bikaner), Shaiv Sagar (Dungarpur), Galata and Ramgarh (Jaipur), Balsamand Lake (Jodhpur), Kailana Lake (Jodhpur), etc.

HISTORY

ANCIENT INDIA

Chronology of Important Events in Indian History

Year	Event	Importance
2 Million BC to 10,00 BC 2 Million BC to 50,000 BC 50,000 BC to 40,000 BC 40,000 BC to 10,000 BC	Palaeolithic Period Lower Palaeolithic Middle Palaeolithic Upper Palaeolithic	Fire was discovered Tools made of limestones were used. They are found in Chotanagpur plateau and Kurnool district
From 10,000 BC	The Mesolithic Age	Hunters and Herders Microlith tools were used
7000 BC	The Neolithic age	Food producers Use of polished tools
Pre-Harappan Phase – 3000 BC	Chalcolithic Age	Use of Copper – first metal
2500 BC	Harappan Phase	Bronze age civilization, development of Urban culture
1500 BC-1000 BC	Early Vedic period	Rig Veda period
1000BC-500BC	Later Vedic period	Growth of 2nd Urban phase with the establishment of Mahajanapadhas
600 BC – 325 BC	Mahajanapadhas	16 kingdoms with certain republics established
544 BC – 412 BC	Haryanka Dynasty	Bimbisara, Ajatshatru and Udayin
412 BC – 342 BC	Shisunaga Dynasty	Shisunaga and Kalashoka
344BC – 323 BC	Nanda Dynasty	Mahapadmananda
563 BC	Birth of Gautama Buddha	Buddhism established
540 BC	Birth of Mahavira	24th Tirthankara of Jainism
518 BC	Persian Invasion	Darius
483 BC	1st Buddhist council	Rajgir
383 BC	2nd Buddhist Council	Vaishali

Year	Event	Importance
326 BC	Macedonian Invasion	Direct contact between Greek and India
250 BC	3rd Buddhist council	Pataliputra
322 BC – 185 BC 322 BC – 298 BC 298 BC – 273 BC 273 BC – 232 BC 232 BC – 185 BC	Mauryan Period Chandragupta Maurya Bindusara Ashoka Later Mauryans	Political unification of India, Dhamma policy of Ashoka, the growth of art and architecture
185 BC – 73 BC	Sunga Dynasty	Pushyamitra Sunga
73 BC – 28 BC	Kanva dynasty	Vasudeva founded the dynasty
60 BC – 225 AD	Sathavahana dynasty	Capital at Paithan, MH
2nd BC	Indo-Greeks	Menander(165-145AD)
1st BC – 4th AD	The Shakas	Rudradaman (130 AD – 150 AD)
1st BC – 1st AD	The Parthians	St Thomas arrived in India during the reign of Gondophernes
1st AD -4th AD	The Kushans	Kanishka (78 AD – 101 AD)
72 AD	4th Buddhist Council	Kashmir
3rd BC – 3rd AD	Sangam age	Convene of Sangam Commune, Rule of Cheras, Cholas and Pandyas
319 AD – 540 AD 319 – 334 AD 335 – 380 AD 380 – 414 AD 415 – 455 AD 455 – 467 AD	The Gupta Age Chandragupta I Samudragupta Chandragupta II Kumaragupta Skandagupta	319 AD – Gupta Age The golden age of India Development of numerous art and literature. Nagara style of Temple Building
550 AD – 647 AD	Vardhana Dynasty	Harsha (606-647 AD) Kannauj assembly and Prayag assembly held Huan-Tsang visited Harsha's assembly
543 – 755 AD	Chalukyas of Vatapi	Development of Vesera style
575 - 897 AD	Pallavas of Kanchi	Structural temples in Dravida style started to develop

MEDIEVAL INDIA

Early Medieval Period (650 – 1206 AD)

Year	Event	Importance

750 – 1150 AD	Rule of the Palas	Capital at Munger, Bihar
752 – 973 AD	The Rasthrakutas	Capital at Malkhed
730 – 1036 AD	The Pratiharas	Ruled western India
712 AD	First Muslim Invasion	Mahmud Bin Qasim invaded India
850 – 1279 AD	The Cholas	Capital at Tanjore, epitome moment for Dravidian Architecture
998 – 1030 AD	First Turk invasion	Mahmud of Ghazni
1175 – 1206 AD	Second Turk invasion	Mahmud of Ghori
1178 – 1192 AD	Prithviraj Chauhan	First battle of Tarain in 1191 between Prithviraj and Mahmud of Ghori 1192, Second battle of Tarain

The Sultanate Period (1206 – 1526 AD)

The Slave Dynasty		
Year	Event	Importance
1206 – 1210 AD	Qutbuddin Aibak	Known as Lal Bakhsh, began the construction of Qutb Minar
1211 – 1236 AD	Shamsuddin Iltumish	Real founder of Delhi sultanate
1236 – 1240 AD	Razia Sultana	First and only Muslim lady whoever ruled India
1240 – 1266 AD	Weak successors	
1266 – 1287 AD	Ghiyasuddin Balban	Established Diwan-i-Arz

The Khalji Dynasty		
Year	Events	Importance
1290 – 1296 AD	Jalaluddin Khalji	Founder of Khalji dynasty
1296 – 1316 AD	Allaudin Khalji	Did many administrative reforms, introduced the Dagh and Chehra system

The Tuglaq dynasty		
Year	Events	Importance
1320 – 1325 AD	Ghiyasuddin Tuglaq	Founder

1325 – 1351 AD	Mohammed-Bin-Tuglaq	Introduction of administrative reforms and certain ambitious projects
1351 – 1388 AD	Firoz Shah Tuglaq	Built great cities
s1398 – 1399 AD	Taimur Invasion	Taimur, the descendant of Chengiz Khan, invaded during the reign of Muhammad Shah Tuglaq

The Sayyid dynasty 1414 – 1451 AD

The Lodhi Dynasty (1451 – 1526 AD)		
Year	Events	Importance
1451 – 1488 AD	Bahlol Lodhi	Founder of Lodhi dynasty
1489 – 1517 AD	Sikander Lodhi	Founded the city of Agra
1517 – 1526 AD	Ibrahim Lodhi	Babur defeated Lodhi in the first battle of Panipat

Vijaynagar and Bahmani Kingdoms

Vijaynagar Kingdom		
Year	Events	Importance
1336 – 1485 AD	Sangama Dynasty	Founded by Harihara and Bukka
1485 – 1505 AD	Saluva Dynasty	Saluva Narasimha
1505 – 1570 AD	Tuluva Dynasty	Veer Narashima
1509 – 1529 AD	Krishna Deva Raya	A gifted Scholar, contemporary of Babur
1570 – 1650 AD	Aravidu Dynasty	Founded by Tirumala

Bahmani Kingdom		
Year	Events	Importance
1347 – 1358 AD	Alaudin Hasan Bahman Shah	Founded the Bahmani Kingdom at Gulbarga
1397 – 1422 AD	Tajuddin Firoz Shah	
1422 – 1435 AD	Ahmad Shah Wali	

Mughal Empire

| 1526 – 1530 AD | Babur | Founder of Mughal empire after the 1st Battle of Panipat |
| 1530 – 1540 AD
1555 – 1556 AD | Humayun | He was defeated by Sher Shah |

1540 – 1555 AD	Sur Empire	Sher Shah defeated Humayun and ruled from 1540-45 AD
1556	2nd Battle of Panipat	Akbar Vs. Hemu
1556 – 1605 AD	Akbar	Established Din-i-illahi, expanded Mughal empire
1605 – 1627 AD	Jehangir	Captain William Hawkins and Sir Thomas Roe visited the Mughal court
1628 -1658 AD	Shahjahan	The pinnacle of Mughal empire and art and architecture
1658 – 1707 AD	Aurangazeb	Beginning of the decline of the Mughal empire
1707 – 1857 AD	Later Mughals	Decline and disintegration of the Mughal empire with gaining strength of the British

Maratha State and Maratha Confederacy

Maratha state 1674 – 1720 AD		
Year	Events	Importance
1674 – 1680 AD	Shivaji	Contemporary of Aurangazeb and the biggest challenge for the Mughals in Deccan
1680 – 1689 AD	Sambhaji	
1689 – 1700 AD	Rajaram	
1700 – 1707 AD	Tarabai	
1707 – 1749 AD	Shahu	The rise of Peshwas
1713 – 1720 AD	Balaji Vishwanath	The first Peshwa
Maratha Confederacy 1720 – 1818 AD		
1720 – 1740 AD	Baji Rao I	
1740 – 1761 AD	Balaji Baji Rao	
1761 AD	Third battle of Panipat	Defeat of Marathas by Ahmad Shah Abdali
1761 – 1818 AD	Later successors	
Anglo Maratha Wars		
1775 – 1782 AD	1st Anglo Maratha War	British were defeated
1803 – 1806 AD	2nd War	Marathas were defeated and they signed the Subsidiary Alliance
1817 – 1818 AD	3rd War	Marathas were decisively defeated

MODERN INDIA

Bengal

Year	Events	Importance
1717 – 1727 AD	Murshid Quli Khan	Capital of Bengal transferred to Murshidabad
1727 – 1739 AD	Shujauddin	
1739 – 1740 AD	Sarfaraj khan	
1740 – 1756 AD	Alivardi Khan	
1756 – 1757 AD	Sirajuddaulah	Battle of Plassey
1757 – 1760 AD	Mir Jafar	
1760 – 1764 AD	Mir Qasim	Battle of Buxar

Mysore

Year	Events	Importance
1761 – 1782 AD	Haider Ali	Establishment of Modern Mysore state
1766 – 1769 AD	1st Anglo – Mysore war	Haider Ali defeated the British
1780 – 1784 AD	2nd Anglo – Mysore war	Haider Ali was defeated by Sir Eyrecoot
1782 – 1799 AD	Tippu Sultan	Continued the 2nd war
1790 – 1792 AD	3rd Anglo – Mysore war	Tipu ceded half of his territory
1799	4th Anglo – Mysore war	Tipu Sultan died

Punjab

1792 – 1839 AD	Maharaja Ranjit Singh	Founder of Sikh rule
1845 – 1846 AD	1st Anglo – Sikh war	Sikhs were defeated
1848 – 1849 AD	2nd Anglo – Sikh war	Dalhousie annexed Punjab

Advent of Europeans in India

1498	Portuguese East India company	Headquarters at Cochin and Goa
1600	English East India company	Madras, Calcutta and Bombay
1602	Dutch East India company	Pulicat, Nagapattinam
1616	Danish East India company	Serampore
1664	French East India company	Pondicherry

Carnatic wars

1746-48	1st Anglo-French war	Treaty of Aix-la-Chapelle
1749-54	2nd Anglo-French war	Treaty of Pondicherry
1758-63	3rd Anglo-French war	Treaty of Paris

Freedom Struggle

1857	First war of Indian independence	Revolt due to socio-religious and economic causes
1885	Formation of Indian National Congress	A O Hume

1885 – 1905	Moderate phase	Dominated by Dadabai Naoroji, Surendranath Banerjea
1905 – 1917	Extremists Phase	Dominated by Lal-Bal-Pal and Aurobindo Ghosh
1905	Bengal Partition	Curzon announced the partition
1905 – 1908	Swadeshi movement	Boycott of foreign products
1906	Muslim league formation	
1906	Calcutta Session of INC	Swaraj as the goal
1907	Surat split	Question on extending the movement to the rest of India
1909	Morley – Minto reforms	The separate electorate for Muslims
1915 – 1916	Home rule movement	BG Tilak and Annie Besant
1916	Lucknow Pact	Pact between Congress and League
1916	Lucknow session	Extremists admitted in Congress

Gandhian Era

Early life

1893 – 1914	Gandhi in South Africa	Foundation of Natal Indian Congress, Sathyagraha and CDM against British excesses
1915 – 1948	Gandhi in India	
1915	Arrived in Bombay. First two years to tour India and not to participate in any political movement	
1917	Champaran Campaign	Against the Indigo cultivators
1918	Ahmedabad	First hunger strike
1918	Kheda	First non-cooperation movement
1919	Rowlatt Sathyagraha	Against the Rowlatt act and Jallianwala massacre
1920-22	Non-cooperation and Khilafat movement	
1924	Belgaum session	Gandhi elected as Congress president
1930 -34	Civil disobedience movement	Dandi March Gandhi – Irwin Pact 2nd Roundtable conference Resuming the Civil disobedience movement
1940-41	Individual satyagraha	
1942	Quit India movement	Do or die

Important Events during this period

1919	Rowlatt act	Gandhi gave a call for Rowlatt satyagraha

1919	Jallianwala Massacre	
1920-22	Khilafat and Non-cooperation movement	Hindu Muslim unity
1922	Chauri Chaura incident	Gandhi called off NCM
1923	Congress Khilafat Swaraj Party	Enter legislative councils
1927	Simon commission	All white commission to review the 1919 act
1928	Nehru committee report	To determine the principles of the constitution
1929	Jinnah's 14 points	
1929	Lahore session	Purna Swaraj
1930	Civil disobedience movement	Dandi March
1931	Gandhi Irwin Pact	To ask Gandhi to participate in the 2nd RTC
1931	2nd RTC held in London	
1932	Communal award	
1932	Poona Pact	
1935	Government of India act	Provisional autonomy
1937	18 months rule of Congress begins	
1939-45	World War II begins	
1939	Congress ministries resign	
1940	August offer	Linlithgow proposed to seek India's cooperation in the World War

1941	Individual Satyagraha	
1942	Cripps mission	
1942	Quit India movement	
1943	Gandhi's 21 days fast	
1944	C R Formula	
1945	Wavell Plan and Shimla Conference	
1945	INA Trails	
1946	RIN Ratings Mutiny	
1946	Cabinet mission plan	
1946	Formation of Interim government	
1946	Formation of the constituent assembly	
1947	Atlee's announcement	
1947	Mountbatten Plan	
1947	Indian independence act, 1947	

INDUS VALLEY CIVILIZATION

John Marshall, the first scholar to use the term "Indus valley civilization". The civilization flourished between 2500 BC-1750 BC.

Geographical Extent of IVC

1. Extent: The Indus valley civilization extended from Sutkagandor (in Baluchistan) in the West to Alamgirpur (Western UP) in the East; and from Mandu (Jammu) in the North to Daimabad (Ahmednagar, Maharashtra) in the South.
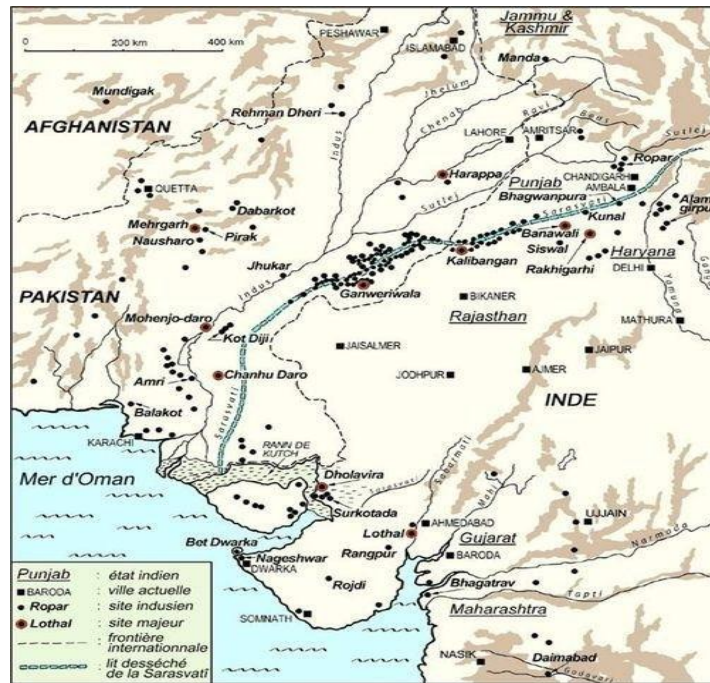
Image source: NCERT

2. Important cities

City	River	Archaeological Importance

Harappa (Pakistan)	Ravi	A row of 6 Granaries, Mother goddess figurines
Mohenjodaro (Pakistan)	Indus	Great Granary, Great bath, Image of Pashupati Mahadeva, Image of Bearded man and Bronze image of a woman dancer
Lothal (Gujarat)	Bhogava	Port city, Double burial, Terracotta horse figurines.
Chanhudaro (Pakistan)	Indus	The city without a citadel
Dholavira (Gujarat)	Indus	City divided into 3 parts.
Kalibangan (Rajasthan)	Ghaggar	Ploughed field
Banawali (Haryana)	Ghaggar	-
Rakhigarhi (Haryana)	-	-
Ropar (Haryana)		
Mitathal (Haryana)	-	-
Bhagatrav (Gujarat)	-	-
Rangpur (Gujarat)	-	-
Sutkagandor (Pakistan)	-	-
Sukotada (Gujarat)	-	-
Kot Diji (Pakistan)		

Town planning and Structure of IVC

Grid system (Chess-board) of town planning

Rectangular houses with brick-lined bathrooms and wells together with stairways are found

Use of Burnt bricks

Underground drainage system

Fortified citadel

Agriculture of Indus Valley Civilisation

Hindon – Cotton – Major trade good – earliest people to produce Cotton.

Proofs of Rice husk found

Wheat and Barley were majorly cultivated

Use of wooden ploughshare. They had no idea about Iron implements.

Domestication of animals

Ox, Buffalo, Goats, Sheep and Pigs were domesticated

Asses and camels were used as Beasts of Burden

Elephants and Rhino were known

Remains of horse found in Surkotada and evidence of horse in Mohenjo-Daro and Lothal are also found.
But the civilization was not horse-centered.

Technology and crafts

Bronze (Copper + tin) tools widely used

Stone implements were still in vogue

Potter's wheel was put to full use

Bronzesmiths, Goldsmiths, Boat-Making, Brick-laying etc were other occupations commonly found

Trade of Indus Valley Civilisation

Presence of granaries, weights and measures, seals and uniform script signifies the importance of trade

The barter system was widely prevalent

Lothal, Sutkagendor were port cities used for conducting trade

Trade destinations – Afghanistan, Iran and Central Asia. Contacts with Mesopotamia civilization are also seen

The political organization of IVC

Cultural homogeneity achieved through a strong central authority

No temples or religious structures found. Harappa was possibly ruled by Merchants class.

Weapons are rarely found.

Religious practices of IVC

Terracotta figure of Mother Goddess.

Phallu and Yoni worship.

Pashupati Mahadev seal found with the elephant, tiger, rhino and a bull surrounding him with two deer near his feet.

Tree and animal worship of IVC

Pipal tree worship was found.

One-horned Unicorn recognized as Rhino and the humped bull was commonly worshipped.

Use of Amulets to ward off ghosts and evil spirits.

The lion was *not* known in Harappan culture.

The Harappan script

Harappan script Pictographic in nature but not deciphered so far.

They are recorded on seals and contains only a few words

Harappan Script is the oldest script in Indian Sub-continent

Weights and Measures

Use of standardized weights and measures to keep accounts of private property, to indulge in trade and commerce etc.

Weights are found in multiples of 16.

Harappan Pottery of IVC

Well-developed Pottery techniques with elaborate designs of trees and circles.

Redware pottery painted with black designs.

Seals of Indus Valley Civilisation

Seals were used for the purpose of trade or worship. Images of animals such as Buffalo, bull, tiger etc were found inscribed in the seals

Statue of IVC

Discovery of Bronze statue of a naked woman and bearded man steatite statue

Terracotta figurines of IVC

Terracotta – Fire baked earthen clay

Used as toys or objects of worship

Massive stone works were not found in Harappa which shows the poorly developed artistic works made of stone

Origin, maturity and end of IVC

Pre-Harappan Settlements – Lower Sindh, Baluchistan and Kalibangan.

Mature Harappa – 1900BC – 2550BC.

Causes for the Decline of Civilization.

Decreasing fertility due to increasing salinity on the account of the expansion of the nearby desert.

Sudden subsidence of uplift of land causing floods.

Earthquakes caused changes in the course of Indus.

Harappan culture destroyed by invading Aryans.

Post-urban Phase (1900BC – 1200BC)

Sub-Indus Culture

Primarily chalcolithic

Development of Ahar Culture, Malwa Culture and Jorwe Culture at various phases in post-Harappan Civilization.

Early Vedic Period (1500BC-1000BC)

Aryans appeared in India around 1500 BC and settled near Eastern Afghanistan, NWFP, Punjab and fringes of western Uttar Pradesh. The whole region is called as the Land of Seven Rivers.

The Aryans came into conflict with the indigenous inhabitants Dasyus and the Aryan chief who overpowered them is called as Tarsadasu.

Sapta Sindhu mentioned in the Rig Veda. Sindu is the river of *Par Excellence* while The Saraswati or *Naditarana* is the best of rivers in the Rig Veda

Rig Vedic name	Modern Name
Sindu	Indus
Vitasta	Jhelum
Asikani	Chenab
Parushni	Ravi
Vipas	Beas
Sutudri	Sutlej

Later Vedic period (1000 BC - 500 BC)

The history of the later Vedic period is based mainly on the Vedic texts which were compiled *after* the age of Rig Veda.

1. Later Vedic Texts

a. The Veda Samhitas

i. Sama Veda – The book of chants with hymns taken from Rig Veda. This Veda is important for Indian Music.

ii. Yajur Veda – The book consists of sacrificial rituals and formulae.

iii. Atharva Veda – This book consists of charms and spells to ward of evils and diseases

b. The Brahmanas – Consists of the explanatory part of the Vedas. Sacrifices and rituals have also been discussed in great detail.

i. Rig Veda – Aitreya and Kaushitiki Brahmana

Consists of 1028 hymns divided into 10 mandalas (books).

In IIIrd Mandala, Gayatri mantra is addressed to solar deity Savitri.

X Mandala addressed to Purusha Sukta

ii. Yajur Veda – Shatapata and Taittariya

iii. Sama Veda – Panchvisha, Chandogya, Shadvinsh, and Jaiminaya

iv. Atharva Veda - Gopatha

c. The Aranyakas – Concluding portions of Brahmanas, also called as Forest texts are written mainly for the hermits and students living in forests.

d. The Upanishads – Appearing at the end of the Vedic period, they criticized the rituals and laid stress on right belief and Knowledge.

Note- Satyamev Jayate has been taken from Mundaka Upanishad.

2. Vedic literature –

Following the Later Vedic age, a lot of Vedic Literature was developed, inspired by the Samhitas which follow the Smriti – Literature which was written in comparison to Shruti – Word of Mouth tradition. Important texts in Smriti tradition are further subdivided into

a. Vedangas
i. Shiksha - Phonetics
ii. KalpaSutras – Rituals
   Sulva Sutras
   Grihya Sutras
   Dharma Sutras
iii. Vyakarna - Grammar
iv. Nirukta - Etymology
v. Chhandha - metrics
vi. Jyotisha - Astronomy
b. Smriti
i. Manu Smriti
ii. Yajnavalkya Smriti
iii. Narada Smriti
iv. Parashara Smriti
v. Brihaspati Smriti
vi. Katyayana Smriti
c. Mahakavyas
i. The Ramayana
ii. The Mahabharata
d. The Puranas
i. 18 Maha Puranas – Dedicated to specific deities such as Brahma, Surya, Agni, Saiva and Vaishnava. They include Bhagavata Purana, Matsya Purana, Garuda Purana etc
ii. 18 Upa Puranas – Lesser known texts
e. The Upvedas
i. Ayurveda - Medicine
ii. Gandharvaveda - Music
iii. Arthaveda - Vishwakarma
iv. Dhanurveda - Archery
f. Shad-Darshanas or Indian Philosophical Schools
i. Samkhya
ii. Yoga
iii. Nyaya
iv. Vaisheshika
v. Mimansa
vi. Vedanta
Buddhism and Jainism
Causes of Origin
> The Kshatriya reaction against the domination of the priestly class called Brahmanas. Mahavira and Gautama Buddha, both belonged to the Kshatriya clan.
> Indiscriminate killing of cattle for Vedic sacrifices and for food had led to the destabilization of the new agricultural economy which was dependent on cattle for ploughing the fields. Both Buddhism and Jainism stood against this killing.
> The growth of cities with the increase in the circulation of Punch Marked coins and trade and commerce had added to the importance of Vaishyas who looked for a new religion to improve their position. Jainism and Buddhism facilitated their needs
> The new forms of property created social inequalities and the common people wanted to get back to their primitive form of life

Growing complexity and degeneration of Vedic religion.

Difference between Jainism and Buddhism and Vedic Religion

They did not attach any importance to the existing Varna system

They preached the Gospel of non-violence

They accepted Vaishyas, including the Moneylenders who were condemned by Brahmanas

They preferred simple, puritan and ascetic living

Buddhism

Gautama Buddha and Buddhism

Gautama Buddha was born in 563 BC in the Republican clan of Shakyas in Lumbini near Kapilavastu. His mother was a princess from Kosalan dynasty.

Four Sights of Buddha's life at the age of 29 had moved him to the path of renunciation. They are

An old man

A diseased person

An ascetic

A dead person

Important events in the life of Buddha

Events	Places	Symbols
Janma	Lumbini	Lotus and Bull
Mahabhinishkramana	-	Horse
Nirvana	Bodh Gaya	Bodhi Tree
Dharmachakra Pravartana	Saranath	Wheel
Mahaparinirvana	Kusinagar	Stupa

Doctrines of Buddhism

Four noble truths

Dukha – life is full of sorrow

Samyuda – there are causes for the sorrow

Nirodha – they can be stopped

Nirodha gamini Pratipada – Path leading towards the cessation of sorrow

Ashtangika Marga

Right observation

Right determination

Right exercise

Right action

Right speech

Right memory

Right meditation

Right livelihood

Madhya Marga – to avoid the excess of both luxury and austerity

Triratna – Buddha, Dharma and Sangha

Special features of Buddhism and the causes of its spread

Buddhism does not recognize the existence of god and soul

Women were also admitted to the Sangha. Sangha was open to all, irrespective of caste and sex

Pali language was used which helped in the spread of Buddhist doctrines among the common people

Ashoka embraced Buddhism and spread it to Central Asia, West Asia and Srilanka

Buddhist   Councils

First Council: The first council was held in the year 483 B.C at Saptaparni caves near Rajgriha in Bihar under the patron of king Ajatshatru, during the first council two Buddhist works of literature were compiled Vinaya and Sutta Pitaka by Upali

Second Council: The second council was held in the year 383 B.C at Vaishali under the patron of king   Kalashoka

Third Council: The third council was held in the year 250 B.C at Patliputra under the patron of King Ashoka the Great, during the third council Abhidhamma Pitaka was added and Buddhist holy book   Tripitaka   was   compiled.

Fourth Council: The fourth council was held in the year 78 A.D at Kundalvan in Kashmir under the patron of king Kanishka, during this council Hinayana and Mahayana were divided.

Importance and influence of Buddhism

Literature

Tripitaka

Sutta Pitaka – Buddha's sayings

Vinaya Pitaka – Monastic code

Abhidhamma Pitaka – religious discourses of Buddha

Milindapanho – a dialogue between Menander and Saint Nagasena

Dipavamsha and Mahavamsha – the great chronicles of Sri Lanka

Buddhacharita by Ashvagosha

Sects

Hinayana (Lesser Wheel) - They believe in the real teachings of Gautam Buddha of attaining Nirvana. They do not believe in idol worship and Pali language was used in the Hinayana text

Mahayana (Greater Wheel) - They believe that Nirvana is attained by the grace of Gautam Buddha and following Boddhisattvas and not by following his teachings. They believe in idol worship and Sanskrit was used in Mahayana text

Vajrayana - They believe that Nirvana is attained by the help of magical tricks or black magic.

Bodhisattvas

Vajrapani

Avalokitesvara or Padmapani

Manjushri

Maitreya (Future Buddha)

Kshitigriha

Amitabha/Amitayusha

Buddhist architectures

Places of Worship – Stupas containing the relics of Buddha or Bodhisattvas. Chaityas are the prayer hall while Viharas are the place of residence of monks

Development of Cave architecture eg. Barabar caves in Gaya

Development of Idol worship and sculptures

The growth of universities of par excellence which attracted students from all over the world

Jainism

Jainism believes in 24 Tirthankaras with Rishabdev being the first and Mahavira, contemporary of Buddha being the 24th Tirthankara.

The 23rd Tirthankar Parshwanath (Emblem: Snake) was the son of King Ashvasena of Banaras.

The 24th and the last Tirthankar was Vardhman Mahavira (Emblem: Lion).

He was born in Kundagram (Distt Muzaffarpur, Bihar) in 599 BC.

His father Siddhartha was the head of Jnatrika clan. His mother was Trishla, sister of Lichchavi Prince Chetak of Vaishali.

Mahavira was contemporary to Bimbisara.

Married to Yashoda, had a daughter named Priyadarsena, whose husband Jamali became his first disciple.

At 30, after the death of his parents, he became an ascetic.

In the 13th year of his asceticism (on the 10th of Vaishakha), outside the town of Jrimbhikgrama, he attained the supreme knowledge (Kaivalya).

From now on he was called Jaina or Jitendriya and Mahavira, and his followers were named Jains.

He also got the title of Arihant, i.e., worthy. At the age of 72, he attained death at Pava, near Patna, in 527 BC.

Five vows of Jainism

Ahmisa – non-violence

Satya – do not speak a lie

Asteya – do not steal

Aparigraha – do not acquire property

Brahmacharya – celibacy

Three main principles

Ahimsa

Anekantavada

Aparigraha

Triratna of Jainism

Right faith – Samayak Shradha

Right Knowledge – Samayak Jnan

Right Conduct – Samayak karma

Five types of knowledge

Mati jnana

Shruta jnana

Avadhi jnana

Manahparayaya Jnana

Keval Jnana

Jain council

1ˢᵗ **Council** at Patliputra under the Patron of Chandragupta Maurya in 300 BC during which the 12 Angas was compiled

2ⁿᵈ **Council** at Vallabhi in 512 AD during which the final compilation of 12 Angas and 12 Upangas was done

Sects

Shwetambars – Sthulabhadra – People who put on white robes. Those who stayed back in the North during the times of famine

Digambar – Bhadrabahu – Exodus of monks to Deccan and South during the times of Magadhan famine. They have a naked attire

Jain Literature

Jain literature used Prakrit, which is a common language of people than using Sanskrit. In this way, Jainism reached far and wide through people. The important literary works are

12 Angas

12 Upangas

10 Parikramas

6 Chhedsutras

4 Mulasutras

2 Sutra Granthas

Part of Sangam literature is also attributed to Jain scholars.

Mahajanapadas, Haryanka Dynasty, Shishunaga Dynasty, Nanda Dynasty

Magadha (Patna, Gaya and Nalanda districts) – The first capital was Rajagriha and the later capital was Pataliputra.

Anga and Vanga (Munger and Bhagalpur) – The capital was Champa. It was a prosperous business centre.

Malla (Deoria, Basti, Gorakhpur region) – The capital was Kushinagar. It was the seat of many other smaller kingdoms. Their main religion was Buddhism.

Vatsa (Allahabad and Mirzapur) – The capital was Kaushambi. The most important ruler of this kingdom was King Udayan.

Kashi (Benaras) – The capital was Varanasi. Though many battles were fought against the Kosala kingdom, eventually Kashi was merged with the Kosala kingdom.

Kosala (Ayodhya) – Though its capital was Shravasti which is identical with Sahet-Mahet but Ayodhya was an important town in Kosala. Kosala also included the tribal Republican territory of Sakyas of Kapilvastu.

Vajji (**Muzaffarpur and Vaishali**) – Vajji was the seat of a united republic of eight smaller kingdoms of which Lichchavis, Janatriks and Videhas were also members.

Kuru (Thaneswar, Meerut and present-day Delhi) – The capital city was Indraprastha.

Panchala (Western Uttar Pradesh) – Its capital was at Kampila. Earlier a monarch state, it later became an independent republic. Kannauj was an important town in this kingdom.

Matsya kingdom (Alwar, Bharatpur and Jaipur) – Its capital was Viratanagar.

Ashmaka (Between Narmada and Godavari) – Its capital was at Pertaii and Brahamdatta was its most important ruler.

Gandhara (Peshawar and Rawalpindi) – Its capital Taxila was important as a trade and education centre (Ancient Taxila university) during the later Vedic age.

Kamboj (Hazara dist of Pakistan, North-east Kashmir) – Its capital was Rajapur. Hazara was an important trade and commerce centre of this kingdom.

Avanti (Malwa) – Avanti was divided into two parts north and south. The northern part had its capital at Ujjain and the southern part had its capital at Mahismati.

Chedi (Bundelkhand) – Shaktimati was the capital of Chedi. Chedi kingdom was spread between Yamuna and Narmada rivers. One of the families from this kingdom later merged into the Kalinga kingdom from this royal family.

Shurasena (Brajmandal) – Its capital was at Mathura and its most famous ruler was Avantiputra.

Sources of Sixteen Mahajanapadas
- Anguttara Nikaya, Mahavastu (Buddhist Literature)
- Bhagavati Sutta (Jain Literature)

Dynasties

Haryanka Dynasty
(1) Bimbisara (544BC-492BC)

Haryanka is the name of a new dynasty founded in Magadha by Bimbisara. He was also called Seniya who was the first Indian to have a regular and standing army

Bimbisara was a contemporary of Buddha.

Pataliputra and Rajagriha were the capitals of the Magadha kingdom. Magadha falls in the Patna region of Bihar.

(2) Ajatashatru (492BC-460BC)

He followed a more aggressive policy. Gained control of Kashi and Vajji. Built the fort of Rajgir.

He convened the 1ˢᵗ Buddhist council

(3) Udayin (460BC-440BC)

He laid the foundation of Pataliputra and shifted the capital from Rajgir to Pataliputra

Shishunaga Dynasty (412BC-344BC)

People elected Shishunga over Nagadasaka (last Haryanka ruler) thereby ending the Haryanka dynasty

Shishunga was succeeded by Kalashoka who convened the 2ⁿᵈ Buddhist council

Nanda Dynasty (344BCC-323BC)

Mahapadma Nanda was the founder and the first king of the Nanda dynasty.

He overthrew the Magadha dynasty and established the new Empire. He was known as Sarvakshatrantak and Ugrasena

Mahapadma was known as Ekrat – the sole monarch

Initially, the Nanda Dynasty inherited a large kingdom of Magadha and subsequently, the boundaries of the Nanda Dynasty were expanded in all directions by its rulers.

Dhana Nanda was the last ruler of the Nanda Dynasty. During his rule, Alexander invaded North-West India by 326 BC

Mauryan Empire

Bindusara (298-273 BC)

He was known to Greeks as Amitrochates and he patronized the Ajivika sect.

Ashoka

Ashoka ascended the throne in 273BC and ruled up to 232 BC. He was known as 'Devanampriya Priyadarsi' the beautiful one who was the beloved of Gods.

Ashoka fought the Kalinga war in 261 BC. Kalinga is in modern Orissa.

Ashokan inscriptions were deciphered by James Princep.

After the battle of Kalinga, Ashoka became a Buddhist, being shocked by the horrors of the war, he replaced Bherighosha by *Dhammaghosha*

Ashoka was initiated to Buddhism by Upagupta or Nigrodha, a disciple of Buddha

For the propagation of Buddhism Ashoka started the institution of Dharmamahamatras.
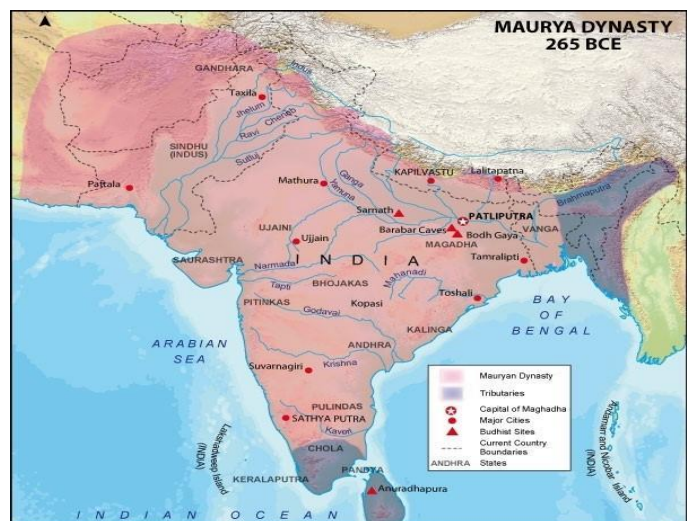
Ashokan Inscriptions

Ashokan inscriptions carried royal orders through which he was able to speak directly to the people. There were rock edicts and pillar edicts which were again divided into major and minor.

The 14 Major Rock Edicts of Ashoka tell about the principles of Dharma

The Kalinga rock edict explains the principles of administration after Kalinga war. In his Kalinga edict, he mentions ''All men are my children''

The Major Rock Edict XII of Ashoka deals with the conquest of Kalinga.

The term 'Ashoka' was mentioned only in the Maski Minor rock edict.

Foreign Invasions in India

Iranian Invasion – 518 BC

Iranian rules *Darius* penetrated into NW India in 516 BC and annexed Punjab, West of Indus and Sindh. This was 20th province of Iran and contributed 1/3rd of the total revenue of Iran due to fertile lands. *Xerxes*, the successor of Darius, employed a large number of Indians in the war against Greeks.

Alexander's Invasion

He defeated the last king of the line of Darius, Xerxes in 333 BC and 331 BC. After occupying the realm

of the Persian king, Alexander crossed the Hindukush mountains in eastern Afghanistan in 327 BC.

After annexing Iran, Alexander moved into India through Khyber Pass. *Ambhi*, the ruler of Taxila readily submitted. He met *Porus* at *Jhelum* where he

defeated him in the Battle of Hydaphes but later restored his kingdom to him. Alexander marched till the *Beas* river but his army refused to accompany him. He remained in India from 326-325 B.C after which he was forced to retreat.
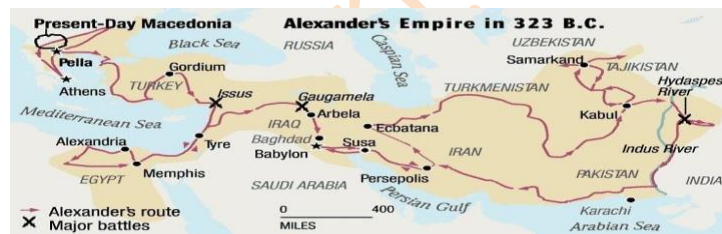
Central Asian contacts and their results

The Indo-Greeks

The series of invasions began in 200 BC by the Bactrian Greeks who were pushed by the Scythian tribes.

Menander (165-145 BC) was the most famous ruler who was converted to Buddhism by *Nagasena*. The questions of Menander were compiled as *Milindapanho*.

Indo-Greeks were the *first* to issue Gold coins in India and they were also the first to issue coins which could be definitely attributed to Kings.

They introduced the features of *Hellenistic Art* through which *Gandhara style* had developed.

The Shakas (1st BC – 4th AD)

The Shakas or Scythians replaced Indo-Greeks. There were five branches of Shakas and they controlled a much larger territory.

Vikrama Samvat started in 57 BC when a king called as Vikramaditya in Ujjain defeated the Shakas.

Rudradaman I (AD 130-150) was a famous king who ruled over western India. He repaired the Sudarshana lake in Kathiawar.

The Parthians

They originally belonged to Iran and they replaced the Shakas in the NW India.

During the times of Gondophernes, St.Thomas is said to have come to India for the propagation of Christianity.

The Kushans

They were nomadic people of Central Asia who ruled from the Oxus to the Ganges.

The Kadaphises I and II ruled for 28 years from 50 AD. They were replaced by the <u>Kanishka</u>.

Peshawar was their first capital and Mathura the second.

Kanishka started <u>the Shaka era in 78 AD</u>.

Kanishka patronized Buddhism by holding a Buddhist council in Kashmir where the doctrines of the Mahayana form of Buddhism was finalized.

Impact of the Central Asian Contacts

Advances in building activities and pottery

They had a better cavalry

They identified themselves as an integral part of India

Satrapy system of Government developed

They appointed military governors called Strategos

Mahayana style of Buddhism developed with Gandhara and Mathura schools of Art supporting the Buddhism.

Kushans Empire

Background of Kushans

Kushans succeeded the Parthian rulers.

Yue-chi tribe was divided into five clans and they were one among them, also called as Tocharans.

They were from steppes in north Central Asia and were nomadic.

First, they occupy Bactria or north Afghanistan. Sakas were displaced there by them.

Moving southwards gradually, they crossed the Hindu Kush and occupied Gandhara, and replaced Parthians and Greeks in those areas.

The empire was vastly extending from Oxus and Khorasan in Central Asia to Ganga and Varanasi in Uttar Pradesh.

Kushanas unified several parts of Central Asia, Iran, Entire Pak, and most part of Northern India bringing under one ruler.

Dynasties of Kushanas

There are 2 dynasties of the Kushan tribe that ruled India.

First:

Founded by Kadphises, House of chiefs.

Term: 28 years starting from 50 AD

Two rulers Kadphises I (Kujul Kadphises) and II (Vema Kadphises), ruled under this dynasty.

They both issued a large number of Coins. Kadphises I, minted a large number of copper coins in sync with Roman coins. Kadphises II issued gold money and also expanded the kingdom to the far east.

Second:

Kanishka succeeded the House of Kadphises. Kanishka kings further expanded the kingdom over lower Indus basin and upper India. The authority was much higher over the Gangetic basin.

The large number and purer gold coins were issued by them, found mainly in the west of Indus.

Kanishka continued to rule the northwestern part until 230 AD. Several of his successor intermingled completely into India, and also acquired Indian names. Vasudeva was the last ruler of the dynasty.

The Rise and Growth of the Gupta Empire

Chandragupta I (319-334 AD)

He was the first great ruler of the Gupta Dynasty. He assumed the title Maharajadhiraja. Married Licchhavi princess

Started the Gupta Era by 319-20 AD

The original type of Gold coins Dinaras was issued.

Samudragupta (335-380 AD)

He followed a policy of violence and conquest which led to the enlargement of the Gupta empire

Harisena, his court poet, vividly mentions his military exploits in Allahabad inscriptions

He reached Kanchi in the south which was ruled by Pallavas

Meghavarman, the ruler of Srilanka, sent a missionary for permission to build a Buddhist temple at Gaya

Samudragupta is called as Napoleon of India

Chandragupta II (380-412 AD)

He adopted the title <u>Vikramaditya</u>

He conquered Malwa and Gujarat which provided him access to the sea which enabled trade and commerce. Ujjain was made as the second capital

His court was adorned by *the Navaratnas* including Kalidasa and Amarasimha.

His exploits are glorified in *Iron Pillar* at *Qutub Minar*

Chinese pilgrim *Fa-Hsien (399-414AD)* visited India during his period.
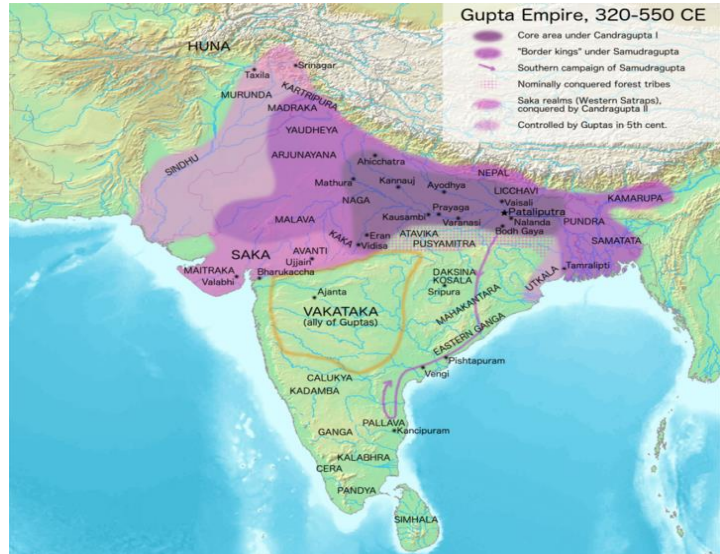
Art

Gupta period is called the Golden age of ancient India. Art was mostly inspired by Religions.

Rock cut caves – Ajanta, Ellora and Bagh caves

Structural temples – Dashavatar temple of Deogarh, Laxman temple of Sirpur, Vishnu temple and Varah temple of Eran. The growth of Nagara style also enabled the development of temple architecture in India

Stupas – Dhammek stupa of Sarnath, Ratnagiri stupa of Orissa, Mirpur Khas in Sindh developed in this period.

Paintings – Ajanta paintings and Bagh caves paintings

Sculpture – the Bronze image of Buddha near Sultanganj, Sarnath and Mathura school flourished during this period which supports the growth of Mahayana Buddhism and Idol worship.

Images of Vishnu, Shiva and some other Hindu gods were also found.

Literature

Religious

Ramayana, Mahabharata, Vayu Purana etc were re-written. Dignaga and Buddhagosha were certain Buddhist literature written in this period

Secular

Mudrarakshasha by Vishakadatta

> **Malavikagnimitra, Vikramorvashiyam, AbhijanaShakuntalam – Dramas by** Kalidasa
>
> **Ritusamhar, Megadoot, Raghuvamsam, Kumarasambhavam – Poetries by** Kalidasa
>
> **Mricchakatika by** Sudraka
>
> **Kamasutra** by Vatsyayana
>
> **Panchatantra by** Vishnu Sharma

Scientific

> **Aryabhatiya and Surya Siddhanta** by Aryabhatta
>
> **Romaka Siddhanta**
>
> **Mahabhaskarya and Laghubhaskarya by** Bhaskara
>
> **Pancha Siddhanta, Vrihat Jataka, Vrihat Samhita by** Vrahamihira

Sangam Age - The Dawn of History in the Deep South

Sangam Period

Sangam period is the period in the history of ancient Tamil Nadu spanning from c. 3rd century BC to c. 3rd century AD. It is named after the famous Sangam academies of poets and scholars centred in the city of Madurai.
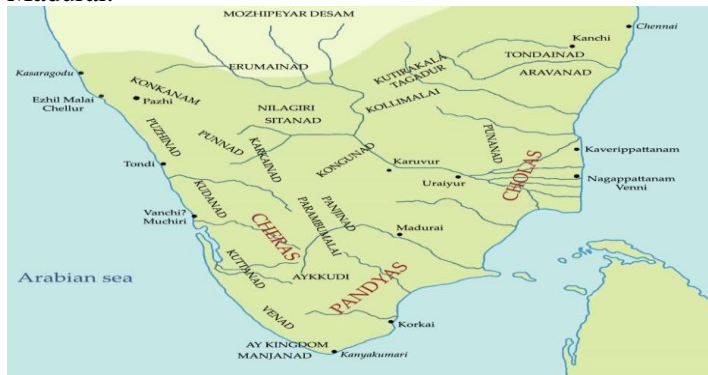
Three early kingdoms

Kingdom	Capital	Port	Emblem	Famous Ruler
Cheras	Vanji – Modern Kerala	Muzuri and Tondi	Bow	Senguttuvan
Cholas	Uraiyur and Puhar	Kaveripatinam/Puhar. They had an efficient Navy	Tiger	Karikalan
Pandyas	Madurai	Korkai for Pearl Fishing	Fish	Nedunzheriyan

Cheras

   They had Palmyra flowers as their Garland

   Pugalur inscriptions mention of three generations of Cheras

   Senguttuvan introduced Pattni cult or Worship of Kannagi as ideal wife

Cholas

   Karikalan built Kallanai (Check dam) against River Kaveri

Pandyas

      Maduraikkanji written by Mangudi Maruthanar describes the socio-economic conditions of the Pandyas

      Invasion by Kalbharas led to their decline

These kingdoms had a profitable trade with the Roman empire. They produced Pepper, Ivory, Pearls, Precious stones, Muslin, Silk, Cotton etc. which led to prosperity in their region.

Rise of social classes

      Enadi – captains of the army

      Vellalas – Rich peasants

      Arasar – ruling class

      Kadaisiyar – the lowest class

      Pariyars – agricultural labourers

Four castes mentioned in Tolkappiyam

      Arasar – Ruling class

      Anthanar – Brahmanas

      Vanigar – People involved in Trade and Commerce

      Vellalar – Labourers

Five-fold division of land

Land	Type of land	Chief deity	Chief occupation
Kurunji	Hilly tracts	Murugan	Hunting and honey collection
Mullai	Pastoral	Mayon	Cattle rearing and dealing with dairy products
Marudham	Agricultural	Indira	Agricultural
Neidhal	Coastal	Varunan	Fishing and salt manufacturing
Palai	Desert	Korravai	Robbery

Sangam administration

      Avai – the imperial court

      Kodimaram – tutelary tree of every ruler

      Panchmahasabha

          Amaichar – ministers

          Senatipathiar – Army chief

          Otrar – Spy

          Thoodar – Envoy

          Purohitar – Priest

      Kingdom's division

        1. Mandalam/Nadu – Province

        2. Ur – town

3. Perur – Big village
4. Sitrur – Small village

Sangams

Sangam	Place	Chairman	Surviving texts
1st	Then-Madurai	Agasthiyar	Nil
2nd	Kapadapuram	Agasthiyar and Tolkappiyar	Tolkappiyam
3rd	Madurai	Founder - Mudathirumaran Nakkirar	Ettutogai, Pattu Pattu (10 idylls)

Tamil language and Sangam literature

Narrative – Ettutogai and Pattupattu which are called Melkankakku – 18 Major works. They are divided into Agam (love) and Puram (Valour)

Didactive – Pathinenkilkanakku – 18 minor works. They deal with Ethics and Morals.

Thirukkural – Written by Thiruvalluvar is a treatise covering various aspects of life.

Tolkappiyam by Tolkappiyar is the earliest of Tamil literature. It is a work on Tamil Grammar but also provides information on Political and Social conditions of Sangam period

Epics

Silapadhikaram by Elango Adigal
Manimegalai by Sitthalai Sathanar
Valayapathi
Kundalagesi
Sivaga Sinthamani

Chalukyas and Pallava Dynasty
THE CHALUKYAS

Chalukyas were the Karnataka rulers and their History can be classified into three eras:

The early western era (6th - 8th century), the era which belonged to Chalukyas of Badami (Vatapi);

The later western era (7th - 12th century), the era which belonged to Chalukyas of Kalyani;

The eastern Chalukya era (7th - 12th century), the era which belonged to Chalukyas of Vengi.

Pulakeshin I (543-566) was the first independent ruler of Badami dynasty. The capital of his kingdom was Vatapi in Bijapur.

Pulakeshin I was succeeded by **Kirthivarma I** (566-596). After his untimely death, his brother **Mangalesha (597-610)** was made the caretaker ruler as the son of Kirthivarma I - **Prince Pulakesin II** was a baby. Mangalesha made several failed attempts to kill the prince but was killed himself by the prince and his friends.

The most famous king of the Chalukyan dynasty was **Pulakeshin II** (610-642), the son of Pulakeshin I. Pulakeshin II was a contemporary of Harshavardhana. He defeated Harshavardhana **on the banks of the Narmada** and his reign is remembered as the greatest period in the history of Karnataka.

The rise of the Eastern Chalukyan Era was started by Pulakeshin II brother **Kubja Vishnuvardana** after conquering the **Kosalas** and the **Kalingas**.

By 631, the Chalukyan Empire was at its peak. It extended from sea to sea. Their fall began when Pulkeshin II was defeated and killed by the Pallavas under the able leadership of **Narsimhavarma I**. The Pallavas attacked their capital Badami & captured it.

Under the leadership Of *Vikramaditya I (655-681)* the Chalukyas rose to power once again. *Vikramaditya I* defeated his contemporaries Pandya, Pallava, Cholas and Kerala rulers to establish his supremacy over the Chalukyan Empire in the southern region.

Vikramaditya I was succeeded by **Vikramaditya II** (733-745) who also defeated the Pallava king Nandivarma II to capture a major portion of the Pallava kingdom.

The fall of the Chalukyan Empire started with Vikramaditya II's son, **Kirtivarma II (745)**, who was defeated by the Rashtrakuta ruler, **Dhantidurga**, who went on to establish the Rashtrakuta dynasty.

PALLAVA DYNASTY

After the decline of the Satavahana dynasty, the **Pallava dynasty,** founded by **Shivaskandavarman** emerged in South India.

Kanchi was the capital of the Pallava dynasty.

Some of the leaders who are worth mentioning are Simhavarama I Sivaskandavarma I, Veerakurcha, Shandavarma II, Kumaravishnu I, Simhavarma II, and Vishnugopa.

The decline of the Pallavas started after Samudragupta defeated Vishugopa.

The Pallavas kingdom was re-established by **Simhavishnu**, the son of **Simhavarma II**, who ended the **Kalabhras'** dominance in **575 AD** and re-established his kingdom.

Vikramaditya I was defeated by **Parameshwaravarma I in 670** and restricted the advance of the Chlukyan king. Eventually, **Parameshwaravarma I** was defeated by the combined armies of the Chalukyas, the Pandyas (lead by their ruler Arikesari Maravarma) and another prominent enemy of the Pallavas.

Narasimhavarma II, a peace-loving ruler, succeeded **Parameshwaravarma I** after he died in 695. The **famous Kailashanatha temple at Kanchi** is built by **Narasimhavarma II.** After the accidental death of his elder sons in 722, **Narasimhavarma II** too died grieving.

Parameshwaravarma II the youngest son of **Narasimhavarma II,** came to power in 722 after the death of his father. The Pallava kingdom was in a state of disarray after the death of **Parameshwaravarma II** in 730 as he had no heirs to the throne.

After some brief infighting for the throne among the family, **Nandivarma II** came to power. Nandivarma then went on to marry the Rashtrakuta princess **Reeta Devi** and re-established the Pallava kingdom.

Dantivarma (796-846) succeeded **Nandivarma II** who ruled for 54 long years. Rastrakuta king **Dantidurga** defeated Dantvarma and was succeeded by Nandivarma III in 846.

Palas, Pratiharas, Rashtrakutas

The struggle for domination – Palas, Pratiharas and Rashtrakutas – tripartite struggle

There was a common struggle between these kingdoms over the control of Kannauj which enabled them to control the fertile upper Gangetic plains

The Palas

They dominated Eastern India.

Founded by Gopala in 750 AD and succeeded by Dharam Pala. The Pala rulers were defeated by the Prathiharas and Rashtrakutas in the North.

They were patrons of Buddhism.

Dharmapala revived the Nalanda University by setting aside 200 villages for its expenses. He also founded Vikramashila University and built many Viharas for Buddhist monks.

They had trade contacts and cultural links with South-East Asia. Sailendra Dynasty sent many ambassadors and asked permission to build a monastery near Nalanda

The Pratiharas

They dominated Western India and Upper Gangetic valley

The real founder and major ruler was Bhoja with title Adivaraha

Al-Masudi, a Baghdad traveller, visited India during the times of Pratiharas in 915-16 AD

Rajashekar, a great Sanskrit poet, and dramatist lived at the court of Mahipala

The attacks by Rashtrakuta rulers, Indra III and Krishna III led to the faster dissolution of the empire

The Rashtrakutas

They dominated Deccan and certain territories in North and South India. Kingdom was founded by Dandi Durga with capital at Malkhed

Amogavarsha was a great king. He was credited with writing the first poetics book in Kannada. He also built the Capital city, Manyakhet.

They were in the constant contest with the Pallavas, the Cholas and the Chalukyas in the South

Krishna I built the rock-cut temple of Shiva at Ellora

They had a tolerant religious policy which favoured their foreign trade

Political ideas and Organizations

The king was the centre of administration and his position became hereditary

Royal household = Antahpur

Administration in Palas and Pratiharas

Bhukti – Province under Uparika

Mandala or Visaya – district under Visayapati

Group of Villages – Samanthas or Bhogapatis.

Pattala – smaller unit

Administration in the Rashtrakutas

Rashtra – Province under Rashtrapati

Visaya – district

Bhukti – smaller unit

Grama-Mahajana – Village elder

Kotwal – responsibility to maintain law and order

Nad-Gavundas/Desa-gramakutas – hereditary revenue officers in Deccan

The Chola Empire

The Chola empire, which arose in the 9th century, brought a large part of the Peninsula under their control. With a strong Navy, they conquered Sri Lanka, Maldives and had a strong foreign trade.

The empire was founded by Vijaylala, a feudatory of Pallavas, in 850 AD.

Rajaraja (985-1014) and Rajendra I (1014-1044) were the greatest Chola kings. They followed a policy of annexation which included annexing Sri Lanka, Maldives, Pandyas and Cheras to control the prosperous trade with South-East Asian countries

Rajarajeshwara temple was built in 1010 at Tanjore.

Rajendra I assumed the title Gangaikondachola (the Chola conqueror of Ganga) and instituted a new capital at the banks of Kaveri called "Gangaikondacholapuram"

Rajendra I also undertook a naval expedition against revived Sri Vijaya Empire of Indo-China

The ruler of Sailendra dynasty had built a Buddhist monastery at Nagapattinam.

The strong navy of Chola led to the conversion of Bay of Bengal into "Chola lake"

The Cholas encouraged Local Self-Government in the villages under their administration

Chola Government

The King administered his territories with advice from his Council of Ministers

Chola administration

Mandalams – Provinces

Valanadu – minor provinces

Nadu – district

Kurram – a group of villages

Infrastructure: Royal roads were built, irrigation projects were undertaken

<u>Village assemblies:</u> the Ur – general assembly of the village; the Mahasabha – the gathering of adult men in Brahmana villages which were called Agraharas

Cultural life

Kailashnath temple in Kanchi, Brihadeswara temple in Tanjore are examples of Dravidian architecture

After the fall of Cholas, the Hoysalas continued the tradition with building temples in Halebid (Hoysaleshwara temple), an example of Chalukyan architecture.

Sculpture art attained its heights with Gomateshwar statue in Sharvana Belagola and Bronze Nataraja statue

Bhakti movement started with Alvars and Nayanars flourished in 6th to 9th Their writings "Tirumurai" is seen as Fifth Veda. Kamban's Ramayan is also considered as a classic in Tamil literature.

Pampa, Ponna, and Ranna are regarded as the three gems of Kannada Poetry

The Rajput States

Rajputana

There was an expansion of aggressive and expansionist Turk tribesmen in the North-western India whose main mode of warfare was rapid advance and retreat. The disintegration of Gurjara-Pratiharas in North-Western India led to a time of political uncertainty.

The Ghaznavids

Mahmud (998-1030) ascended the throne of Ghazni

Firdausi was a court-poet of Ghazni. His famous work "Shah Namah" was a watershed in Iranian renaissance

Mahmud was a plunderer and destroyer of temples. In 1025, he raided and plundered the Somnath temple in Gujarat. He undertook 17 raids in India and constantly fought against the Hindushahi rulers

Seljuk Empire was established with the death of Mahmud

The Rajput States

The break-up of the Pratiharas empire led to the formation of Rajputana states.

Few important of these were-

    (a) Gahadavalas of Kannauj

    (b) Paramaras of Malva

    (c) Chauhans of Ajmer

Few other significant states were Kalachuris near Jabalpur, Chandellas in Bundelkhand, Chalukyas of Gujarat, Tomars of Delhi etc.

Rajputs patronized Hinduism and Jainism to a certain extent.

They also upheld the Varna system and the Privileges of Brahmanas

Turkish Conquests

The Seljuk empire was replaced by Khwarizmi empire in Iran and Ghurid empire in Ghur.

Muizzudin Muhammed ascended the throne at Ghazni while Chauhan's powers were also constantly rising. With the capture of Delhi, the Chauhans and Ghurids were in the direct contest.

<u>1st Battle of Tarain (1191)</u> Muhammed Ghori Vs. Prithviraj Chauhan – Ghurids lost the battle

<u>2nd Battle of Tarain(1192)</u> Muhammed Ghori Vs. Prithviraj Chauhan – Prithviraj Chauhan lost the battle. This led to Delhi and Eastern Rajasthan passing under the Turkish rule.

Muhammad Ghori entrusted the positions under Qutbuddin Aibak, who later found the Slave dynasty and led to the foundations of Delhi Sultanate. Bakthiyar Khalji has entrusted the positions east of Benares.

The Chauhans of Ajmer

The Chauhans were the feudatories of Gurjara-Pratiharas

Ajayaraj Chauhan, king of Sakhambari established a city called Ajayameru which was later known as Ajmer

His successor Vigraharaj captured Dhillika from Tomar Kings

After the defeat of Prithviraj Chauhan, the dynasty was weakened.

Qutbuddin Aibak dealt the final blow by defeating the dynasty in 1197 AD.

The Tomars of Delhi

The Tomars were the feudatories of the Pratiharas.

They founded the city of Delhi in 736 A.D. During 9th-12th century, the Tomars of Delhi ruled parts of the present-day Delhi and Haryana.

Mahipala Tomar captured Thaneshwar, Hansi and Nagarkot in 1043 A.D.

Chauhans captured Delhi in middle of the 12th century and the Tomars became their feudatories.

Mewar

Mewar is a region of south-central Rajasthan state in western India.

It includes the present-day districts of Bhilwara, Chittorgarh, Rajsamand, Udaipur, Pirawa Tehsil of Jhalawar District of Rajasthan, Neemuch and Mandsaur of Madhya Pradesh and some parts of Gujarat.

The region was a part of the Rajput-ruled Mewar Kingdom or the Udaipur Kingdom. In 1568, Akbar captured Chittorgarh, the capital of Mewar.

Maha Rana Sanga (1508 - 1528)

Rana Sanga of Mewar belonged to the Sisodiya clan who was a contemporary to Ibrahim Lodhi and Babur.

The Battle of Khanwa, 1527 took place between Babur and Rana Sanga in which Babur won and established the Mughal's rule firmly in North India.

Maha Rana Pratap (1572 - 1597)

Rana Pratap of Mewar belonged to the Sisodiya Rajputs as was Rana Sanga.

He was a contemporary of Akbar.

When Akbar sent a number of envoys in making Rana Pratap as a vassal and submitting to Akbar, Rana refused and the Battle of Haldighati was fought on 1576 between Raja Man Singh I of Amber and Maha Rana Pratap in which Maha Rana Pratap was defeated by the Mughals.

Marwar

In 1194, Mahmud of Ghori defeated Jaichand of Kannauj.

His descendant, Sheoji, established themselves at Mandore city in Marwar.

The Jodhpur state was founded in the 13th century by the Rathore clan of Rajputs, who claim descent from the Gahadvala kings of Kannauj.

The Rathore rulers of the Indian princely state of Jodhpur were of an ancient dynasty established in the 8th century.

However, the dynasty's fortunes were made by *Rao Jodha*, first of the rulers of the Rathore dynasty in Jodhpur in 1459.

The Chandelas of Bundelkhand

Established them in the 9th century. Harshadeva was the founder of this dynasty.

Bundelkhand was also known as Jejakabhukti

Mahoba was the capital of Chandela during the period of Chief Yasovarman

Kalinjar was their important fort.

The Chandelas built the most famous Kandariya Mahadeva Temple in 1050 A.D. and a number of beautiful temples at Khajuraho. Vidyadhara is noted for having commissioned the Kandariya Mahadeva Temple.

Paramal the last Chandela ruler was defeated by Qutb-ud-din Aibak in 1203 A.D.

The Paramaras of Malwa

They were a part of Agnivanshi Rajput dynasty. Established in 9-10th Century, they were vassals of Rashtrakutas

They made Dhar as their capital. Bhoja was an important ruler in their period.

The later Paramara rulers moved their capital to Mandu after Dhar was sacked multiple times by their enemies.

Mahalakadeva, the last known Paramara king, was defeated and killed by the forces of Alauddin Khalji of Delhi in 1305 CE

The Chalukyas of Gujarat

The Chalukya dynasty ruled parts of what is now Gujarat and Rajasthan in north-western India, between c. 940 CE and c. 1244 CE. Their capital was located at Anahilavada (modern Patan).

Mularaja was the founder of the dynasty. During the rule of Bhima, I, Mahmud of Ghazni plundered Somnath temple.

Mularaja is said to have built Mulavasatika temple for Digambara Jains and the Mulanatha-Jinadeva temple for the Svetambara Jains.

The Dilwara Temples and the Modhera Sun Temple have constructed during the reign of Bhima I.

Rani-ki-Vav was commissioned by Queen Udayamati

The Kalachuris of Tripuri

The Kalachuris of Chedi, ruled parts of central India during 7th to 13th centuries from their capital Tripuri near Jabalpur.

The kingdom reached its zenith during the reign of *Lakshmikarna*, who assumed the title *Chakravartin* after military campaigns against several neighbouring kingdoms

The Karan temple at Amarkantak was built by Lakshmikarna (1041 – 1173 CE)

Vijayanagar and Bahmani Empire

Vijayanagar Kingdoms

The Sangama Dynasty

Sangama dynasty was founded by Harihara and Bukka, who were the feudatories of Kakatiyas of Warangal in 1336.

Year	Ruler	Significance
1336 – 1356	Haihara I	Laid the foundations of Vijayanagar empire
1356 – 1379	Bukka I	Strengthened the city of Vidyanagar and renamed it to Vijaynagar
1379 – 1404	Harihara II	Son of Bukka I
1406 – 1422	Deva Raya I	1) Built a dam across Tungabadhra 2) *Nicolo de Conti* visited Vijaynagar

		3) Induction of Muslim cavalrymen and archers in army begun
1423 – 1446	Deva Raya II	1) He was called *Praudh Deva Raya* 2) His inscriptions have the title *Gajabetekara* 3) *Dindima* was the court poet 4) *Abdur Razzak*, Persian Traveler, envoy of Sharukh visited Vijaynagar

The Suluva Dynasty

Year	Ruler	Significance
1486 – 1491	Suluva Narashima	Founder of Suluva dynasty
1491	Tirumal Narasimha	Minor during the reign of Narasa Nayaka
1491 – 1505	Immadi Narashima	Vasco-da-Gama landed in Calicut during his reign

The Tuluva dynasty

Year	Ruler	Significance
1505 – 1509	Vira Narashima	Son of Narasa Nayaka, became the King after assassinating Immadi Narashima
1509 – 1529	Krishna Deva Raya	1) He re-established the internal law and order situation and restored the old territories of Vijayanagar which were usurped by other powers. 2) Architecture: he built the Vijay Mahal, Vithal swami temple and Hazara Mahal. 3) Foreign Travelers: Duarte Barbosa and Dominigo Paes were Portuguese travellers who visited Vijayanagar empire. 4) The Ashtadiggajas: Peddana, Timmaya, Bhattamurthi, Dhurjati, Mallan, Raju Ramachandra, Surona and Tenali Ramakrishna. 5) He maintained the friendly relationship with Portuguese governor *Albuquerque* 6) He took the titles *Yavanaraja Sthapnachrya, Abhinava Bhoja, Andhra Pitamaha etc* 7) Literature: he composed *Amuktamalayada* –Telugu work on Polity and *Jambavati Kalyanam* – Sanskrit Drama
1529 – 1542	Achyuta Deva Raya	*Farnao Nunij*, a Portuguese horse trader visited Vijaynagar
1542	Venkata I	Rama Raja exercised real power
1543 – 1576	Sadashiva Raya	The Battle of Talikota was fought in 1565 in which the five kingdoms of the Bahmani Empire fought against the Vijaynagar and imposed a crushing defeating on Vijaynagar, executing Rama Raja and looting the city and destroying it completely Caesar Frederick, a Portuguese traveller, Visited Vijaynagar

The Araveedu dynasty (1570 – 1650 AD)

Tirumal Raya ruled in this period in the name of Sadashiva Raya. He shifted his capital from Vijaynagar to Penugonda.

Administration in the Vijaynagar Empire

Territorial division

Rajyas or Mandalams – Provinces

Nadu – District

Sthala – Sub-district

Grama – Village

Ayngar System, a body of 12 functionaries to conduct village affairs developed.

Pagodas/Varahas – Gold coins issued in Vijaynagar

Amaram – territory with fixed revenue were given to Military chiefs called *Palaiyagar* or *Nayaks* who had to maintain a fixed number of horses, elephants and foot soldiers for the service of the state

Architecture

They had a vibrant combination of Chalukyan, Hoysala, Pandya and Chola style in their temple architectures.

Dravida style was developed in Vijaynagar which had a large number of Pillars and Piers.

Mandapas with rising platforms were made along with Amman Shrine in temples

Stories of Ramayana and Mahabharata were inscribed on the walls of Vijaynagar temples.

Important temples are

        Vithalswami and Hazara Rama temple – Hampi

        Tadapatri and Parvati temple – Chidambaram

        Varadaraja and Ekambranath Temple - Kanchipuram

The Bahmani Empire

The Bahmani Empire was situated in the north and acted as a dominating rival to the Vijaynagar Empire.

It was founded by an Afghan, Alauddin Hasan in 1347.

For the *first* time, the use of *Artillery* was heard in their battles.

The Bahmani capital was Hasanabad (Gulbarga) between 1347 and 1425 when it was moved to Muhammadabad (Bidar)

Year	Ruler	Significance
1347 – 1358	Allaudin Hasan Bahman Shah	Known as Hasan Gangu, founded the Bahmani kingdom with capital at Gulbarga
1397 – 1422	Tajuddin Firoz Shah	1) He determined to make Deccan as the cultural centre of India due to the decline of Deccan Sultanate in the North 2) He improvised the ports of Chahul and Dabhol 3) He inducted Hindus in administration on a large scale 4) He encouraged the pursuit of Astronomy and built an observatory near Daulatabad
1422 – 1435	Ahmad Shah	1) Last great ruler who transferred the capital from Gulbarga to Bidar 2) He was called as Wali for his association with Sufi Gesu Daraz
1463 - 1482	Mahmud Gawan	1) He was granted the title Malik-ul-Tujjar and was the Prime minister of Sultan Muhammad Shah III Lashkari 2) His military expeditions led to the weakening of the Vijaynagar Empire. The loss of the port of Goa and Dabhol dealt a serious blow to the Vijaynagar Empire 3) He divided the kingdom into 8 provinces or Tarafs, each governed by a Tarafdar 4) Khalisa lands were set aside for the expenses of Sultan 5) He built a magnificent Madarasa in Bidar

Dynasties of Delhi Sultanate

Dynasty	Period of Rule	Prominent rulers

Mamluk or Slave dynasty	1206 – 1290	Qutubuddin Aibek, Iltutmish, Razia Sultan, Ghiyasuddin Balban
Khilji dynasty	1290 – 1320	Alauddin Khilji
Tughlaq dynasty	1321 – 1413	Muhammad Bin Tughlaq, Firoz Shah Tughlaq
Sayyid dynasty	1414 – 1450	Khizr Khan
Lodhi dynasty	1451 – 1526	Ibrahim Lodhi

Slave Dynasty (1206-1290)

Year	Ruler	Important Facts
1206 - 1210	Qutbuddin Aibak	1) Most trusted slave of Muhammed of Ghori 2) Died in 1210 while playing *Chaughan* (Polo) 3) He was granted the title *Lakh Bakhsh* 4) He constructed the *Quwat-ul-Islam* mosque in Delhi and *Adhai din ka jhonpra* at Ajmer 5) He also started the construction of *Qutb Minar* in the honour of Sufi saint *Khwaja Qutbuddin Bakthiyar Kaki*
1210 – 1236	Illtutmish	1) The real consolidator of Turkish conquests 2) He saved the Delhi Sultanate from the invasion of the Mongol, *Chengiz Khan* 3) He introduced the currency system of Tanka and Jittal 4) He organized *Iqta System* – land grant to soldiers and nobility 5) He set up the *Chahalgani* system – nobility of 40 members 6) He completed the construction of Qutb Minar
1236 – 1240	Razia Sultana	1) The first and the only Muslim lady who ever ruled India 2) Though a popular ruler, she was disliked by the Chahalgani who wanted to put a puppet ruler at the throne 3) She was defeated and killed by Bandits while in a fight
1240-1266	An era of weak rulers	After the death of Raziya, weak rulers ascended the throne, who were supported by the Nobles. Bahram Shah, Masud shah and Nasiruddin Muhammad were the successors.

1266 – 1287	An era of Balban	1) A strong and centralized government was established
		2) He acted as a champion of Turkish Nobility
		3) He broke the strength of Chahalgani to restore the powers of the Monarchy
		4) He established *Diwan-i-arz*, military department towards a strong army
		5) He adopted a policy of blood and iron to restore the law and order problems
		6) He insisted on the ceremony of *Sijada and Paibos*
		7) He took up the title *Zil-i-illahi*
1218 – 1227	**Changez Khan**	1) The Mongol leader who prided in being called the *Scourge of God*
		2) They attacked the Khwarizmi empire and sacked the flourishing cities
		3) Delhi Sultanate became the only important Islam state of this period
		4) Illtutmish, in 1221, refused an asylum request of Jallaudin, who was defeated by Changez Khan. Changez Khan did not cross River Indus, which saved the weak sultanate from loot and plunder.

The Khaljis (1290- 1320)

Year	Rulers	Important Facts
1290 – 1296	Jalaluddin Khalji	1) He checked the monopoly of Turkish nobility and followed a policy of tolerance

1296 – 1316	Allauddin Khalji	1) He separated religion from politics and proclaimed, 'Kingship knows no kinship' 2) He followed an imperialist and annexation policy. He annexed Gujarat, Ranthambore, Malwa, Mewar etc **Administrative reforms** 1) By series of 4 Ordinances, Allaudin took steps to avoid the problems caused by the nobles 2) He introduced the <u>Dagh</u> – branding of horse and <u>Chehra</u> – a descriptive roll of soldier's system. 3) By setting up markets, Allauddin fixed the cost of all commodities 4) He constructed the *Alai fort* and *Alai Darwaza* – entrance of Qutb Minar 5) He also built the palace of thousand pillars called *Hazar Sutun* 6) Amir Khusrau was the court poet of Allaudin
1316 – 1320	Mubarak Khan	
1320	Khusrau Khan	Ghazi Malik deposed Khusrau Khan in a rebellion.

Tughlaq dynasty (1320-1412)

Emperor	Period
Ghiyasuddin Tughlaq	1320-24
Muhammad Tughlaq	1324-51
Firoz Shah Tughlaq	1351-88
Mohammad Khan	1388
Ghiyassuddin Tughlaq Shah II	1388

Abu Baqr	1389-90
Nasiruddin Muhammad	1390-94
Humayun	1394-95
Nasiruddin Mahmud	1395-1412

Ruler	Period of Rule	Important facts
Ghiyasuddin Tughlaq	1320-1325	1. Khusrau Khan, the last king of the Khilji dynasty was killed by Ghazni Malik, and Ghazni Malik ascended the throne assuming the title Ghiyasuddin Tughlaq. 2. He died in an accident and his son Jauna (Ulugh Khan) succeeded him under the title Mohammad-bin-Tughlaq.
Mohammad-bin Tughlaq	1325-1351	1. Prince Jauna, Son of Ghiyasuddin Tughlaq ascended the throne in 1325 2. He tried to introduce many administrative reforms. He had 5 ambitious projects for which he has become **particularly debatable.** Taxation in the Doab (1326) Transfer of Capital (1327) Introduction of Token Currency (1329) Proposed Khurasan Expedition (1329) Qarachil Expedition (1330) 3. His five projects have led to revolts all around his empire. His last days were spent in checking the revolts 1335 -- Madurai became independent (Jalaluddin Ahsan Shah) 1336 -- Foundation of Vijayanagar (Harihar & Bukka), Warangal became independent (Kanhaiya) 1341-47 -- Revolts of Sada Amirs & Foundation of Bahamani in 1347 (Hasan Gangu) He died in Thatta while campaigning in Sindh against Taghi, a Turkish slave.
Firoz Shah Tughlaq	1351-1388	1. He was a cousin of Mohammad-bin-Tughlaq. After his death, the nobles and the theologians of the court selected Firoz Shah as the next Sultan. 2. Established of Diwan-i-Khairat (department for poor and needy people) and Diwan-l-Bundagan (department of slaves) 4. Making Iqtadari system hereditary. 5. Construction of canals for irrigation from the Yamuna to the city of Hissar 6. From the Sutlej to the Ghaggar. From the Ghaggar to Firozabad 7. From Mandvi and Sirmour Hills to Hansi in Haryana. 8. Establishment of four new towns, Firozabad, Fatehabad, Jaunpur and Hissar.
After Firoz Shah Tughlaq	1388-1414	1. The Tughlaq dynasty would not survive much after Firoz Shah's death. The Malwa, Gujarat and Sharqi (Jaunpur) Kingdoms broke away from the Sultanate. 2. Timur Invasion: (1398-99) Timur, a Turk, invaded India in 1398 during the reign of Muhammad Shah Tughlaq, the last ruler of the Tughlaq dynasty. His army mercilessly sacked and plundered Delhi.

		3. Timur returned to Central Asia, leaving a nominee to rule to Punjab which ended the Tughlaq dynasty.

Sayyid dynasty (1414 – 1450)

Emperor	Period
Khizr Khan	1414-21
Mubarak Shah	1421-33
Muhammad Shah	1421-43
Alauddin Alam Shah	1443-51

Ruler	Period of Rule	Important facts
Khizr Khan	1414-1421	1. Timur's nominee captured Delhi and was proclaimed the new Sultan and the first of the Sayyid Dynasty. 2. They ruled over Delhi and surrounding districts.
Mubarak Shah	1421-1434	1. He succeeded Khizr at the throne after his successful expeditions against Mewatis, Katehars and the Gangetic Doab area. 2. He was killed by the nobles in his own court.
Muhammad Shah	1434-1443	1. The nobles put Muhammad Shah on the throne, but could not survive the in-fighting among the nobles in the court. 2. He was authorized to rule a meagre area of around 30 miles and rest of the Sultanate was ruled by the nobles.
Alam Shah	1443-1451	The last Sayyid king descended in favour of Bahlol Lodhi and he retired. Thus began the Lodhi dynasty, which confined to Delhi and a few surrounding areas.

The Lodhi Dynasty (1451-1526 AD)

Ruler	Period of Rule	Important facts
Bahlol Lodhi	1451-88	1. Bahlol Lodhi was one of the Afghan sardars who established himself in Punjab after the invasion of Timur 2. He founded the Lodhi dynasty. He founded the rule of the Lodhi dynasty by usurping the throne from the last of the Sayyid rulers. 3. He was a strong and brave ruler. He tried to restore the glory of Delhi by conquering territories around Delhi and after the continuous war for 26 years, he succeeded in extending his authority over Jaunpur, Rewail, Itawah, Mewar, Sambhal, Gwalior etc. 4. He was a kind and generous ruler. He was always prepared to help his subjects. 5. Though he was himself illiterate, he extended his patronage to art and learning. He died in 1488.

| Sikandar Lodhi | 1489-1517 | 1. Sikandar Lodhi was the son of Bahlol Lodhi who conquered Bihar and Western Bengal.
2. He shifted his capital from Delhi to Agra, a city founded by him.
3. Sikandar was a fanatical Muslim and he broke the sacred images of the Jwalamukhi 4. Temple at Naga Kot and ordered the temples of Mathura to be destroyed.
5. He took a keen interest in the development of agriculture. He introduced the Gaz-i-Sikandari (Sikandar's yard) of 32 digits for measuring cultivated fields.
6. He was a staunch Sunni and a Muslim fanatic. He lacked religious tolerance. In the name of religion, he perpetuated untold cruelties on the Hindus. |
| Ibrahim Lodhi | 1517-26 | 1. He was the last king of Lodhi dynasty and the last Sultan of Delhi
2. He was the son of Sikandar Lodhi
3. The Afghan nobility was brave and freedom-loving people but it was because of its fissiparous and individualistic tendencies that the Afghan monarchy was weakened. Moreover, Ibrahim Lodhi asserted the absolute power of the Sultan.
4. At last Daulat Khan Lodhi, the governor of Punjab invited Babur to overthrow Ibrahim Lodhi; Babur accepted the offer and inflicted a crushing defeat on Ibrahim Lodhi in the first battle of Panipat in 1526.
5. No Sultan of India except Sultan Ibrahim had been killed on the battlefield. |

Important Central Departments

Department	Function
Diwan-i-Risalat (Foreign Minister)	Department of appeals
Diwan-i-Ariz	Military department
Diwan-i-Bandagan	Department of slaves

Diwan-i-Qaza-i-Mamalik	Department of justice
Diwan-i-Isthiaq	Department of pensions
Diwan-i-Mustakhraj	Department of arrears
Diwan-i-Khairat	Department of charity
Diwan-i-Kohi	Department of agriculture
Diwan-i-Insha	Department of correspondence

Important Central Officials

Post	Role
Wazir	The Chief Minister of the State in Charge of revenue and finances, controlled by other departments.
Ariz-i-Mamlik	Head of Military department
Qazi	Legal Officer(dispensed civil law based on Muslim law Shariat)
Wakil-i-dar	Controller of the royal households.
Barid-i-mumalik	Head of the state news agency
Amir-i-majlis	Officer-in-charge of royal feasts, conference and festivals.
Majlis-i-am	Council of friends and officers consulted on important affairs of the state.
Dahir-i-mumalik	Head of the royal correspondence.
Sadr-us-sudur	Dealt with religious matters and endowments.
Sadr-i-Jahan	Officers-in-charge of the religious and charitable endowment.
Amir-i-dad	Public prosecutors
Naib wazir	Deputy Minister
Mushrif-i-mumalik	Accountant general

Mughal Empire

Mughal Empire		
1526 – 1530 AD	Babur	Founder of Mughal empire after the 1stBattle of Panipat
1530 – 1540 AD 1555 – 1556 AD	Humayun	He was defeated by Sher Shah

1540 – 1555 AD	Sur Empire	Sher Shah defeated Humayun and ruled from 1540-45 AD
1556	2nd Battle of Panipat	Akbar Vs. Hemu
1556 – 1605 AD	Akbar	Established Din-i-illahi, expanded Mughal empire
1605 – 1627 AD	Jehangir	Captain William Hawkins and Sir Thomas Roe visited the Mughal court
1628 -1658 AD	Shahjahan	The pinnacle of Mughal empire and art and architecture
1658 – 1707 AD	Aurangazeb	Beginning of the decline of Mughal empire
1707 – 1857 AD	Later Mughals	Decline and disintegration of the Mughal empire with gaining strength of the British

Babur (1526 - 1530)

Babur, the founder of Mughal Empire in India, traced his ancestry to the Timurid dynasty.

In 1517 Ibrahim Lodhi succeeded Sikander Lodhi.

Embassies from Daulat Khan and Rana Sanga inviting Babur to displace Ibrahim Lodhi led to *the 1st Battle of Panipat* in 1526.

Babur used an Ottoman (Rumi) device in this war.

Babur also heavily used Gunpowder in this war, though it was known in India in earlier times.

The Battle of Khanwa (1527) was fought between Rana Sanga and Babur. With the defeat of Sanga, Babur's position got strengthened in the Gangetic plains.

He declared the war as a *Jihad* and assumed the title *Ghazi* after his victory.

Babur composed Tuzuk-i-Baburi, a Masnavi and the Turkish translation of a well-known Sufi work. Tuzuk-i-Baburi was translated into Persian as Baburnama by Abdur Rahim Khankhana

He built two mosques, one at Kabulibagh, Panipat and another in Sambhal, Rohilkhand

Humayun (1530 – 1540 and 1555 - 1556)

Humayun became the Mughal Emperor on 29 December 1530 at the age of 23.

In the Battle of Chausa, 1539, Humayun was defeated for the first time by Shershah Suri.

In the next year (1540) Shershah completely defeated Humayun in the Battle of Kanauj and founded the Sur dynasty.

After the lapse of 15 years, Humayun re-captured the Empire by defeating the last Sur ruler Sikandar Shah Suri in the Battle of Sirhindh, 1555, after which he ruled only for 6 months.

The period from 1540 to 1555 is known as the period of the temporary eclipse of the Mughal.

Humayun died by an accidental fall from the staircase of his Library 'Shermandal' at the Puranakwila in Delhi on 24 January 1556.

Humayun was an accomplished mathematician and astronomer. He earned the title *Insan-i-Kamil* (Perfect Man), among the Mughals

Humayun's biography Humayun Namah was written by Humayun's sister Gulbadan Begum. The language used to write this biography was a mixture of Turkish and Persian.

Architecture during Humayun's Period

The Purnakwila was constructed by Humayun but its construction was completed by Shershah.

Humayun's tomb is situated in Delhi (the first building in India having double domes) which was built by Haji Begum

In 1533 Humayun built the city of Dinpanah (world refuge) in Delhi.

Sher Shah Suri (Sur Empire)

Shershah's original name was Farid.

His family came to India from Afghanistan.

In *the Battle of Chausa*, 1539, Sherkhan defeated Humayun for the first time and assumed the name Shershah.

Later in 1540 he completely defeated Humayun in *the Battle of Kanauj* and founded the Sur dynasty.

Architecture:

Shershah constructed the Grand Trunk Road from Sohargaon to Attock (Calcutta to Amritsar) He introduced the National Highway concept for the first time in India. Now the Grand Trunk Road is known as Shershah Suri Marg. Its part from Delhi to Amritsar is known as National Highway -1.

He also built roads from Agra to Jodhpur and Chittoor and Lahore to Multan. He built Sarais at a distance of every two Kos. These sarais later developed into Market towns, Qasbas. They were also used as stages for news-services, Dak-Chowkis.

He built the Purana Qila in Delhi (its Construction was started by Humayun) and his own Mausoleum (Tomb) at Sasaram in Bihar.

He also constructed the Khooni Darwaza (blood-stained gate) the gateway of Firozshah Kotla in Delhi.

Economy and Administration

He was the first ruler to introduce Silver *Rupiya* (one rupiya was equal to 64 dams) and gold coin *Ashrafi*.

Administrative divisions:

Iqta – Province under Haqim or Amin

Sarkar – District under Shiqdar-i-Shiqadaran or Munsif-i-Munsifan

Pargana – Taluk under Shiqdar or Munsif

Gram – Village under Muqqadam or Amil

He made local Muqaddams/Zamindars responsible for local crimes

Hindi poet Malik Muhammed Jayasi completed his Padmavat, during his reign.

Mughal Empire

Akbar (1556 - 1605)

Year	Significance
1556	Akbar ascends the throne at the age of 14
1556	2nd Battle of Panipat between Hemu and Bairam Khan(khan-i-khannan). Hemu gets defeated in the battle
1560	Akbar becomes independent at the age of 18 and dismisses Bairam Khan
1564	Abolition of Jizyah tax
1571	Foundation of Fatehpur Sikri, near Agra, was laid
1574	Mansabdari system introduced
1575	Ibadatkhana was built
1576	Battle of Haldihatti fought between Rana Pratap and the Mughal army led by Raja Man Singh
1580	Dahsala Bandobast system introduced
1582	Din-i-illahi – a new religion was propounded by Akbar which was s synthesis of values taken from several religions like Hinduism, Islam, Jainism etc. It was a move against religious orthodoxy and bigotry. He followed the policy of *Sulh-kul* or peace to all.

Akbar was an **illiterate person**, but he was a patron of men of eminence. He maintained a Scholastic Assembly (Navratnas) in his court. They included the following personalities.

Abul Fazal: Akbar's court historian who wrote Akbar's biographical works Ain-i-Akbari and Akbar Namah.

Abul Faizi: Persian poet and brother of Abul Fazal. He translated Mahabharata into Persian in name 'Razam Namah' and Bhaskaracharya's mathematical work Leelavati into Persian.

Mian Tansen: His original name was Ram Thanu Pande. He was the court Musician of Akbar. He composed a Raga, Rajdarbari in honour of Akbar.

Birbal: His real name was Mahesh Das. He was the court jester of Akbar.

Raja Todarmal: Raja Todarmal was Akbar's finance or revenue minister. He formulated Akbar's revenue system Zabti and Dashala systems. Raja Todermal also translated Bhagavatapurana into Persian.

Maharaja Man Singh: Akbar's military commander.

Bhagawandas: Son of Bharmal

Abdur Rahim Khankhana: Hindi Poet

Mulla Do Pyaja

Administration

Land revenue

Akbar started the *Annual assessment* system where land was assessed by *Qanungos* or hereditary holders of land and tax collected by *Karoris*.

In 1580, a new system *Dahsala* (prices over the last 10 years) were calculated. The land was measured using the *Zabti* system which was an improvement over the Dahsala system. It was also known as Todarmal's *Bandobast*

In *Batai* system, the production was divided in fixed proportions.

In *Nasaq* system, rough calculation of Peasant's payments over the past years was calculated and the empire's share was fixed.

Types of Cultivable Lands

Polaj – land under cultivation every year

Paratti – fallow land

Chanchar – land fallow for 2-3 years

Banjar – land fallow more than 2-3 years

Taccavi – loans to the peasants

Land divisions for the purpose of revenue

Khalisa – lands kept separately to meet the expenses of the emperor

Jagir – land was given to nobles or mansabdars to meet their expenses

Inam – land was given to religious persons

Mansabdari System: This was introduced to maintain a huge army. Ranks (Mansabs) were awarded to nobles. They were divided into Zat (Personal status) and Sawar (Cavalryman required to maintain). Along with this, Dagh and Chehra system were also followed. Mansabdars were assigned Jagirs which they used to pay the salary of soldiers

Important Posts:

Wazir/Diwan – Head of Revenue department

Subedar – Governor of a province

Mir Bakshi – head of Military who was also the head of nobility

Barids – Intelligence officers

Waqia-navis – news reporters

Mir Saman – in charge of imperial households and royal workshops (Karkhanas)

Chief Qazi – head of Judicial departments

Chief Sadr – responsible for charitable and religious endowments

Diwan-i-am – open durbar

Ghusal Khana – private consultation chamber

Architecture during Akbar's period

He built Agra Fort, Lahore Fort, Allahabad Fort, Humayun's tomb and Fatehpur Sikri near Agra.

At Fatehpur Sikri, Akbar built Ibadat Khana or Hall of Prayer in which he called selected theologians and mystics with whom he discussed religious and spiritual topics.

Akbar built Buland Darwaza at Fatehpur Sikri in 1601 to commemorate his victory over Gujarat.

He opened Ibadat Khana to people of all religions and took liberal views in discussing religions.

Jahangir (1605 - 1627)

Jahangir came to the throne in 1605. He issued 12 ordinances. He established *Zanjir-il-Adal* – Chain of Justice in Agra Fort and was known for his strict administration of Justice.

He married Mehrunnisa, an Afghan widow in 1611 and Later he gave her the titles Noor Mahal (light of the palace), Noor Jahan (light of the world) and Padshah Begum.

In 1606 Jahangir executed fifth Sikh Guru, Guru Arjun Dev because he helped Jahangir's son Prince Khusru to rebel against him.

In 1609, Jahangir received *William Hawkins*, an envoy of King James I of England, who reached India to obtain trade concession.

In 1615, *Sir Thomas Roe* reached the court of Jahangir as the first ambassador of James I of England in the court of Jahangir. As a result of his efforts, the first English factory was established at Surat in Gujarat.

Period of Jahangir is considered as the **Golden Age of Mughal Painting**. Jahangir himself was a painter. Ustad Mansur and Abul Hassan and Bishan das were famous painters in the court of Jahangir.

Jahangir wrote his autobiography Tuzukh-i-Jahangiri in the Persian language.

Jahangir died in 1627 and was cremated at Shahdara in Lahore.

Architecture

Jahangir built Shalimar and Nishant Gardens in Srinagar.

He completed the tomb of Akbar at Sikandara

Jahangir introduced the vigorous use of Marble instead of red sandstone and use of Pietra dura for decorative purposes. Nurjahan built Itimad-ud-daula/Mirza Ghiyas Beg's Marble tomb at Agra

He built Moti Masjid at Lahore and his own mausoleum at Shahdara

Shah Jahan (1628 - 1658)

Shah Jahan was born on 5th January 1592 at Lahore. His childhood name was Khurram. He ascended the throne in 1628.

He married Arjumand Benu Begum, daughter of Asaf Khan, brother of Noor Jahan. She later came to be known as Mumtaz Mahal which means beloved of the Palace.

Shahjahan destroyed the Portuguese settlements at Hoogly in 1631-32.

The Gateway of Red Fort is the Lahore Gate. It is here at the Lahore Gate that the Prime Minister of India hoists the National Flag and addresses the nation on the Independence Day.

In 1656 Shahjahan constructed the Jama Masjid in Delhi. It is the biggest masjid in India. The first masjid in India was constructed at Kodungallur in Kerala (Cheraman Palli) in 644 AD by Malik Ibn Dinar.

Shah Jahan's period is known as the **Golden Age of Mughal Empire.**

The Portuguese introduced European painting in India during the reign of Shah Jahan

In 1658 Shah Jahan was imprisoned by his son Aurangzeb and he died in 1666, after eight years. His daughter Jahan Ara was also kept in prison along with him at the Agra Fort.

Shah Jahan's son Dara Shikoh was a famous scholar. He translated Bhagavat Gita and Sixty Upanishads into Persian. He also wrote a book titled Mujm-ul-Behrain (Mingling of the Oceans) He also translated Atharva Veda into Persian.

Shah Jahan was a famous lyricist who wrote in Hindi. The famous Peacock Throne was built by Shah Jahan. It was abducted from here by Nadir Shah in 1739 during his Indian invasion (Persian conqueror). Now it is kept at the London Tower Museum, Britain.

French travellers Bernier and Tavernier, Italian travellers Nicoli Manucci, Peter Mundi visited India during Shah Jahan's period.

Architecture

Shah Jahan's period is considered as the Golden Age of Mughal Architecture and Shah Jahan is known as the **Prince of Builders.**

In 1631, he started the construction of Taj Mahal in memory of his wife and completed in 1653. **Ustad Iza**, a Turkish/ Persian was its architect. British administrator Furguson called it 'a love in marble'

In 1638 Shah Jahan built his new capital Shahjahanabad in Delhi and shifted the capital from Agra to there. He also built Takht-i-Taus or Peacock throne.

In 1639, he started the construction of **Red Fort in Delhi** on the model of Agra fort built by Akbar. The Diwan-i- Aam, Diwan-i-Khas and the Moti Masjid are situated inside the Red Fort. The Moti Masjid in Agra was constructed by Shah Jahan.

Aurangzeb (1658 - 1707)

Aurangzeb imprisoned his father and made himself the Padshah in 1658. But his actual coronation was conducted in 1659. He defeated Dara and crowned himself under the title "*Alamgir*". He was the last great Mughal Emperor after which the disintegration had started.

Aurangzeb is known as 'Zinda Pir' or living saint because of his simple life.

He was a staunch and orthodox Muslim who banned singing and dancing in the Royal court. He reintroduced Jizyah and Pilgrimage tax.

In 1675, he executed 9th Sikh Guru, Guru Teg Bahadur because of his reluctance to accept Islam. Guru Gobind Singh, the last Sikh Guru, organized his followers under Khalsa to fight the tyranny of Aurangzeb. He was assassinated in 1708.

Aurangzeb's son built *Bibi ka Makbara* in 1679 AD in memory of his mother Rabia-Durrani.

The only building by Aurangzeb in Red Fort is Moti Masjid. He also built the Badshahi Masjid in Lahore.

Later Mughals

Year	Ruler	Significance
1707 – 12	Bahadur Shah I	Original name – Muazzam
1712 – 13	Jahandar Shah	Ascended the throne with the help of Zulfikar Khan
1713 – 19	Farrukh Siyar	Sayyid brothers helped him in ascending the throne
1719 – 48	Muhammad Shah	Nadir Shah raided India. Weak successor
1748 – 54	Ahmad Shah	Ahmad Shah Abdali raided India. Mughals ceded Punjab and Multan
1754 – 59	Alamgir II	Delhi was occupied by Ahmad Shah Abdali and later plundered
1759 – 06	Shah Alam II	Lived outside Delhi
1806 – 37	Akbar II	Pensioner of East India Company conferred the title Raja on Raja Ram Mohan Roy
1837 – 57	Bahadur Shah II	1857 Revolt took place under his nominal leadership. Was deported to Burma

Bhakti and Sufi Movement in Medieval India
Bhakti Movement
Development in South India

The development of the Bhakti movement took place in *Tamil Nadu* between 7th and 12th CE.

It was reflected in the emotional poems of the *Nayanars* (devotees of Shiva) and *Alvars* (devotees of Vishnu).

These saints looked upon religion not as cold formal worship but as a loving bond based upon love between the worshipped and worshipper.

Philosophical schools

Philosophy	Founder
Vishishtadvaita	Ramanuja
Dvaitadvaita / Bhedabhed	Nimbarka
Dvaita	Madhava
Shudadvaita	Vishnu swami
Advaita (non-dualism)	Sankaracharya

Significant Facts

Appar, Sambandar, Sundaramurti, and Manikkavasagar were prominent Nayanars. The hymns of the first three are mentioned in *Thiruvasagam* was written by Manikkavasagar.

Tirumurais is the collection of works of Nayanars which is called as the fifth Veda.

Andal was a women Alvar saint. There were 12 Alvars and 63 Nayanars. *Periyapuranam* by Shekkihzar traces the life history of Nayanars

Divya Prabhandam was the collection of hymns by Alvars

Development of Bhakti movement in North India

The saints wrote in local languages, Tamil and Telugu and were, therefore, able to reach out to many people. They also translated Sanskrit works in local languages. Few saints are

Jnanadeva – Marathi

Kabirdas, Surdas, Tulsi das – Hindi

Shankaradeva - Assamese

Chaitanya and Chandidas - Bengali

Sanskrit, which was prevalent in the north, was given a new form as the movement moved to North. Bhagavata Purana was a significant work in 9th century and an important component of Bhakti movement

Kabir, Namdev and Guru Nanak had preached devotion to a *Nirankar* form of god. The followers of Guru Nanak identify themselves as Sikhs.

The Vaishnavite movement

Devotion on *Sakar* form of god. Rama and Krishna were seen as avatars of Lord Vishnu. The main exponents were Surdas, Mirabai, Tulsidas and Chaitanya who espoused the path of salvation through the medium of poetry, songs, dance, and kirtans.

Sursagar by Surdas, Ramacharitmanas by Tulsidas were important works during this period.

Bhakti Saints

Ramananda – first great saint in North India

Kabir – the disciple of Ramananda, Nirguna saint, sought Hindu-Muslim unity, his followers are called Kabir Panthis

Guru Nanak – founder of Sikhism, social reformer and Nirguna saint

Chaitanya – Krishna bhakti cult and founder of *Gaudiya* or Bengal Vaishnavism

Purandara das – laid the foundations for modern Carnatic music

Vallabhacharya – propounded the principle of *Pushti Marg*

Bhakti saints of Maharastra Dharma

Jnanadeva – founder of Bhakti movement in Maharashtra; *bhavarthadipka* – Marathi commentary of Bhagavad Gita

Namadeva – founder of the Vithoba or Vithal cult which was known as *Varkari* sect

Eknath – Wrote *Bhavartha Ramayana* – commentary on Ramayana

Tukaram – Wrote devotional poetry known as *Abhangas*

Ramdas – *Dasabodha* – Compilation of his writings and sermons

Sufi Movement

Sufism in India

The Sufis came to India via Afghanistan. In the beginning, the main centres were Punjab and Multan which later spread to Kashmir, Bihar, Bengal, and Deccan.

Abu Fazl in *Ain-i-Akbari* speaks of fourteen silsilahs. They were divided into

Ba-shara: Orders which followed the Shariat and its directives such as Namaz and Roza. Chief of them are Chisthi, Suhrawadi, Firdwasi, Qadiri and Naqshbandi

Be-shara: They were not bound by Shariat. The Qalandars belonged to this group

Silsilahs

The Chishti Silsilah: Founded by Khwaja Moinuddin Chisti who made Ajmer as the centre of learning. His disciples were Sheik Hamiduddin and Qutbuddin Bakhtiyar Kaki. Baba Farid, the disciple of Sheikh Nizamuddin Auliya made Delhi as an important centre. Sheik Nasiruddin Mahmud, famously called Nasiruddin *Chirag-i-Dilli* was also the famous Chisthi saint

The Suhrawadi Silsilah: founded by Sheik Shihabuddin Suhrawadi, it was established by Sheik Bahauddin Zakariya in India. He set up Khanaqa at Multan and received the title Shaikhul Islam.

The arrival of Europeans in India

Portuguese

Vasco-da-Gama reached the port of Calicut in 1498 during the reign of king Zamorin (Hindu ruler of Calicut).

Settlements: Daman, Salsette, Chaul, and Bombay (West coast), San Thome (near Madras) and at Hooghly.

Alfonso de Albuquerque, the second Governor of India (first being Fransisco de Almeida) arrived in 1509 and captured Goa in AD 1510.

Dutch

Dutch East India Company was formed in AD 1602.

Dutch were defeated by English at the **Battle of Bedara** in AD 1759 and as per the agreement, the Dutch gained control over Indonesia and the British over India, Sri Lanka and Malaya.

Settlements They set-up their first factory at Masulipatnam in 1605. Their other factories were at Pulicat, Chinsura, Patna, Balasore, Naga pattanam, Cochin, Surat, Karikal, and Kasimbazar.

English

The English East India Company was formed in 1599 under a charter granted by Queen Elizabeth in 1600. Jahangir granted a Farman to **Captain William Hawkins** permitting the English to erect a factory at Surat (1613).

In 1615, **Sir Thomas Roe** succeeded in getting an imperial Farman to trade and establish a factory in all parts of the Mughal Empire by ruler Jahangir.

In 1690, a factory was established at Suttanati by **Jab Charnock**. In 1698, following the acquisition of zamindari of three villages of **Suttanati, Kalikata** and **Govindpur**, the city of Calcutta was founded. Fort William was set-up in 1700.

In 1717, John Surman obtained a Farman from Farrukhsiyar, which gave large concessions to the company. This Farman has been called the Magna Carta of the Company.

Battle of Plassey (1757) English defeated Sirajuddaula, the Nawab of Bengal.

Battle of Buxar (1764) Captain Munro defeated joint forces of Mir Qasim (Bengal), Shujauddaula (Awadh) and Shah Alam II (Mughal).

Danes

The Danish East India Company was formed in 1616.

The Danish colony 'Tranquebar' was established on the Southern Coromandel coast of India.

Settlements Serampur (Bengal) and Tranquebar (Tamil Nadu) sold their settlements to the English in 1845.

French

The French East India Company was formed by Colbert under state patronage in 1664. The First **French factory** was established at Surat by Francois Caron in 1668. A factory at Masulipatnam was set-up in 1669.

French were defeated by English in **the Battle of Wandiwash** (1760).

Peasant Movements in India

Important Civil Uprisings

Year	Uprising	Facts
1763-1800	Sanyasi Revolt (or) Fakir rebellion	Causes: Famine of 1770 and the harsh economic exploitation by the British Participants: Peasants, dispossessed zamindars, disbanded soldiers and rural poor. Equal participation of Hindus and Muslims was seen Leaders: Debi Chaudhurani, Majnum Shah, Chirag Ali, Musa Shah, Bhawani Pathak Literary works: Anandmath and Devi Chaudhurani by Bankim Chandra Chattopadhyay
1766-1774	Revolt in Midnapore and Dhalbhum	Causes: Introduction of Permanent Settlement System in Bengal and dispossession of Zamindaries Leaders: Damodar Singh and Jagannath Dhal
1769-1799	Revolt of Momarias	Causes: Rise of low-caste Momaria peasants to challenge the authority of Ahom kings Results: The Ahom king, though survived the rebellion, finally fell to a Burmese invasion and came under British Rule
1781	Civil Uprisings in Gorakhpur, Basti, and Bahraich	Causes: Plan of Warren Hastings to meet the war expenses against Marathas and Mysore. English officers were involved as Izaradars or revenue farmers in Awadh.
1794	Revolt of Raja of Vizianagaram	Causes: British asked for help from the Raja of Vizianagaram, Ananda Gajapatiraju, to oust the French from Northern Circars. After their victory, the British went back on their words, demanded a tribute from the Raja and asked him to disband his troops. Raja Vizayaramaraju, the son of Late Ananda Gajapatiraju rose up in revolt. He was later killed in a battle.
1799-1800	Revolt of Dhundia in Bednur	Dhundia was a Maratha leader who rose up in revolt against the British. He was defeated by Wellesley in 1800.
1797; 1800-1805	The resistance of Kerala Simham Pazhassi Raja	Extension of British paramountcy over Kottayam and exorbitant rates of tax on the peasants led to a mass resistance by peasants under the leadership of Pazhassi Raja.

1799	Civil Rebellion in Awadh	Massacre of Benares by Wazir Ali. He was the fourth Nawab of Awadh who was later deposed and pensioned off by the British.
1800; 1835-1837	Uprisings in Ganjam and Gumsur	Rebellion by Strikara Bhanj and his son Dhananjay Bhanj, the zamindars of Gumsur against the British.
1800-1802	Uprisings in Palamau	Agrarian landlordism and the feudal system
1795-1805	Poligars revolt	Poligars were the landlords belonging to South India. They rose in revolt against the British due to their revenue demands. Kattabomman Nayakan, Oomaithurai and Maruthu Pandian were the important chiefs in the revolt.
1808-1809	Diwan Velu Thampi's revolt	Causes: the State of Travancore fell into arrears after agreeing into Subsidiary alliance. The British resident of Travancore was meddling in the internal affairs of the state. This made Velu Thampi to rise against the Company. His call to revolt was known as Kundara Proclamation.
1808-1812	Disturbances in Bundelkhand	The insurgency by Bundela chiefs after Bundelkhand was attached with Bengal Presidency. The disturbances were put down by contractual obligations called *Ikarnamahs* with the Bundelas.
1813-1814	Parlakimedi Outbreak	Resistance from Parlakimedi Raja Narayan Deo against the Company
1816-1822	Kutch Rebellion	Causes: · British interference in internal affairs of Kutch. · British administrative innovations · Excessive land assessments Leader: Raja Bharmal II of Kutch
1816	Rising at Bareilly	Causes: · Imposition of Police Tax · Discontent due to alien administration
1817	Upsurge in Hataras	High revenue assessment from Hataras resulted in Dayaram revolting against the Company.
1817	Paika Rebellion or Paike Bidroh	The Paiks of Odisha were the traditional landed militia. Causes: · The English company's conquest of Odisha and the dethronement of the Raja of Khurda had greatly reduced the power and prestige of the Paiks. · The extortionist land revenue policies caused further resentment among the zamindars and peasants. · Increase in the prices of Salt due to taxes · Abolition of Cowrie currency · Requirement of payment of taxes in Silver are other causes Leader: Bakshi Jagabandhu Bidyadhar
1818-1820	Waghera Rising	· Resentment against alien rile · Exactions of the Gaekwad of Baroda
1828	Ahom Revolt	· British attempts to incorporate Assam into their territory after the First Burma War · Gomdhar Konwar was the leader to lead the revolt
1840's	Surat Salt Agitations	· Raise in taxes on salt from 50 paise to 1 rupee · Introduction of Bengal standard weights and measures

1844	Kohlapur and Savantvadi revolts	· Gadkaris rose in revolt against the British due to administrative reorganization and unemployment
1840's	Wahabi movement	· Islamic revivalist movement founded by Syed Ahmed of Rai Bareilly · Conversion of Dar-ul-Harb into Dar-ul-Islam · Jihad declared on Sikhs and later on British
1840's	Kuka Movement	· Founded by Bhagat Jawahar Mal in Western Punjab. Another major leader was Baba Ram Singh who founded the Namdhari Sikh Sect
1782-1831	Narkelberia Uprising	· The first armed peasant uprising against the British · Titu Mir inspired Muslim peasants to rise against Hindu landlords
1825-1835	The Pagal Panthis	· Founded by Karam Shah consisting of the Hajong and Garo tribes · They refused to pay rents and attacked the houses of Zamindars
1838-1857	Faraizi Revolt	· Founded by Haji Shariat-Allah of Faridpur · Dadu Mian organized his followers to expel British from Bengal
1836-1854	Moplah Uprisings	· Took place in Kerala Causes: · Hike in revenue demands · Reduction in field sizes · Oppression of officials
1859-60	Indigo Revolt	Indigo was identified as a major cash crop for East India Company's Investments in the 18th Indigo had worldwide demand similar piece-goods, opium and salt. Indigoplanting in Bengal dated back to 1777 when Louis Bonnard, a Frenchman introduced it to the Indians. The Indigo revolt (or Nil bidroha) was a peasant movement and subsequent uprising of indigo farmers against the indigo planters that arose in Chaugacha village of Nadia in Bengal in 1859.

Tribal Revolts in India During British Period
1. Non-Frontier tribal revolts

Years	Uprising	Facts related to the uprising
1778	Pahriyas rebellion	Place: Rajmahal Hills Led by: martial Pahariyas Cause: against the British expansion on their lands
1776	Chuar uprising	Place: Bengal Led by: Chuar aboriginal tribesmen Cause: economic privatization by the British
1831	Kol uprising	Place: Chotanagpur Led by: Buddho Bhagat Cause: British rule expansion and land transfers
1827-1831	Ho and Munda uprising	Place: Singhbhum and Chotanagpur Led by: Raja Parahat and others Cause: British expansion and revenue policy

1890s-1900s	Later Munda and Ulugulan uprising	Place: Ranchi and Chotanagpur Led by: Birsa Munda Cause: against feudal and zamindari system and exploitations by money lenders, denial of their rights over forested areas.
1855-56	Santhal rebellion	Place: Bihar Led by: Sido and Kanhu Causes: · Against feudal and zamindari system and exploitations by money lenders. It later turned out Anti-British and was suppressed. · Among the numerous tribal revolts, the Santhal uprising was the most remarkable one. When the Permanent Settlement was introduced in Bengal in 1793, the Santhals were employed as laborers with the promise of wages or rent-free lands. However, they were forced to become agricultural surfs, exploited at will.
1837-56	Kandh uprising	Place: from Tamil Nadu to Bengal Led by: Chakra Bisoi Cause: Interference in tribal customs and imposition of new taxes.
1860s	Naikada Movement	Place: M.P. and Gujrat Cause: against British and caste Hindus.
1870s	Kharwar rebellion	Place: Bihar Cause: against revenue settlement activities.
1817-19 & 1913	Bhil revolts	Place: regions of Western Ghats Cause: against company rule and to form Bhil Raj.
1967-68;1891-93	Bhuyan and Juang rebellion	Place: Kheonjhar,Orissa Led by: Ratna Nayak and Dharni Dhar Nayak Cause: Policy of annexation
1880s	Koya revolts	Place: Godavari region of Andhra Pradesh Leader: Raja Anantayyar Cause: against feudal and zamindari system and exploitations by money lenders, denial of their rights over forested areas.
1910	Bastar revolt	Place: Jagdalpur area Cause: New feudal and forest levies.
1914-15	Tana Bhagat movement	Place: Chhota Nagpur area Led by: Jatra Bhagat and Balram Bhagat. Cause: against interference of outsiders, began as Sanskritization movement.
1916-1924	Rampa revolts	Place: Andhra Pradesh region Leader: Alluri Sitarama Raju Cause: Interference in tribal customs and imposition of new taxes.
1920 onwards	Jharkhand uprising	Places: Chhotanagpur region; parts of Bihar, Orissa and West Bengal. Adivasi Mahasabha was formed in 1937.
1920s-1930s	Forest Satyagrahas	Led by: By Chenchu tribals & by Karwars Cause: · British interference in internal affairs of tribal areas · British administrative innovations · Excessive land assessments

| 1940s | Gond uprising | · To bring together the believers of Gond dharma. |

2. North-East Frontier Tribal Uprisings

Years	Uprising	Facts
1823-33	Ahom's' revolt	Place: Assam Cause: against non-fulfilment of the pledges of the British after the Burmese War. Result: · The British had pledged to withdraw after the first Burmese War(1824-26) from Assam but in contrast, the British attempted to incorporate the Ahoms territories in the company's dominion after the war. · This initiated a rebellion in 1828 under the leadership of Gomdhar Konwar. · Finally, the company decided to follow a conciliatory policy and handed over upper Assam to Maharaja Purandar Singh Narendra and parts of the kingdom was restored to the Assamese king.
1830s	Khasi's revolt	Place: Hilly regions of Meghalaya Leader: Nunklow ruler Tirath Singh Cause: against the occupation of hilly regions. Result: · Due to the compulsory enlistment of labourers for road construction led the Khasis to revolt under the leadership of Tirath Singh, a Khasi chief. The Garos joined them. · The long and harassing warfare with Khasis continued for four years and was finally suppressed in early 1833
1930s	Singhpho's rebellion	Place: Assam Cause: British interference in internal affairs of tribal areas and administrative innovations along with Excessive land assessments.
1917-19	Kuki's revolt	Place: Manipur Cause: aginst Britsih labour recruitment policies during WW1.
1920s	Zeliangsong Movement	Place: Manipur Led by: Zemi and Liangmei tribes Cause: British failed to protect these tribes during Kuki's violence.
1905-31	Naga Movement	Place: Manipur Led by: Jadonang It was against British rule and about setting up of a Naga Raj.
1930s	Hereka Cult	Place: Manipur Led by: Rani Gaidinliu As a result of this movement, Kabui Naga Association was formed in 1946

The Revolt of 1857

The Revolt of 1857 is of steppingstone and is regarded as the primary outburst of resentment of simmering anger due to the prevailing discontent against the Britishers. Many revolts took place later such as battles of Plassey and Buxar, which are regarded as the landmark and decisive battles in shaping the modern historical regime.

The genesis of the revolt:

The revolt was started by the soldiers and later spread across the country by peasants, artisans, and so on. The soldiers had worked for the East India Company and sacrificed their lives for the sake of others.

People of different religions of India came together and fought united for one cause in this revolt.

Nature of the revolt

Revolt of 1857 began as a revolt of the sepoys but eventually secured the participation of the masses.

V.D. Savarkar called 1857 revolt as the First War of Indian Independence.

Dr S.N. Sen describes it as "having begun as a fight for religion but ended as a war of independence."

Dr R.C. Majumdar considers it as neither the first, nor national, nor a war of independence.

As per some British historians, it was just a peasant sepoy mutiny.

Important facts of the Revolt

Meerut incident
- 19th Berhampur Native Infantry refused to use the newly introduced Enfield rifle and mutiny broke out in February 1857, later dissolved in Mar' 1857.

The 34th Native Infantry's young sepoy, Mangal Pandey, fired at his unit's sergeant major at Barrackpore.

The 7th Awadh Regiment was also disbanded

Meerut rose to revolt May 10, they released their imprisoned comrades, killed their officers and moved to Delhi after sunset.

Delhi- Centre of the Great Revolt

Leaders of the revolt

At **Delhi,** the symbolic leadership was to the Mughal emperor, Bahadur Shah, but the real command was led by **General Bakht Khan.**

Kanpur rose under **Nana Saheb, Tantia Tope, AZimullah Khan**. Sir Hugh Wheeler, commanding the station, surrendered. Nana Saheb declared himself the Peshwa and Bahadhur Shah as Emperor of India

Begum Hazrat Mahal took over the reign of **Lucknow** and Birjis Qadir, her son, was declared Nawab. Henry Lawrence, the British resident, was killed. The remaining Europeans were evacuated by Sir Colin Campbell, the new commander - in - chief.

At **Bareilly, Khan Bahadur**, in **Bihar, Kunwar Singh**, Zamindar of Jagdishpur and **Maulvi Ahmadullah of Faizabad** led the revolt at their respective places.

Rani Laxmibai, the most outstanding leader of the revolt, was driven out of **Jhansi** with the application of Lapse's Doctrine as Lord Dalhousie, the Governor-General refused to allow her adopted son to succeed to the throne.

Political & Socio-religious Organization before INC

Pre-Congress Political organizations in Bengal

Name of Organization	Year of formation	Founder/associates	Objectives/ Remarks
Bangabhasaha Prakasika Sabha	1836	Associates of Raja Ram Mohan Roy	· Promotion of Bengali education and build public opinion · Demanded for freedom of press; entry of Indians to higher offices; etc.
Zamindari Association/ Landholders' Society	1838	Dwarkanath Tagore	· To safeguard the interests of landlords. · Only legal machinery was used to raise their demands.

British India Society*	1839 (England)	William Adam, Friend of Raja Ram Mohan Roy	· To make general public of England familiar with the condition of Indians. · Also used legal machinery to raise their demands.
The Bengal British India Society	1843	George Thomson. Members included 'Young Bengal' group	· to present the actual condition of people of British India.
British Indian Association	1851		· It is the merger of Zamindari Association and the Bengal British India Society. · raised many demands like separate legislative council, abolition of stamp duties, etc.
The East India Association*	1866 (London)	Dada Bhai Naoroji	· Welfare of Indians. · To make general public of England familiar with the condition of Indians. · It had branches in Bombay, Madras and Calcutta.
The Indian League	1875	Sisir Kumar Ghosh	Instigate the feelings of nationalism.
The Indian Association of Calcutta (Indian National Association)	1876	Surrendranath Banerjee and Ananda Mohan Bose	· To unify public opinion on key political issues. · Voice was raised for civil services reform · It was later merged with Indian National Congress.

*It was established in England (not in Bengal).

Pre-Congress Political organizations in Bombay and Madras:

Organizations	Year of formation	Founder/Associates	Remarks
Bombay Association (Bombay Native Association)	1852	Jagannath Shankersheth, Sir Jamshedji Bhai, Naoroji Fardonji, Dadabhai Naoroji	· They used to take up public grievances through constitutional means.
The Poona Sarvajanik Sabha at Pune	1867	Mahadeva Govind Ranade	· They fought for legal rights of peasants and farmers. · Connected common people with the British Government. · B. G. Tilak was also a member of this Sabha.
The Bombay Presidency Association	1885	Badruddin Tyabji, Pherozshah Mehta and K. T. Telang	· It was aimed at opposing Lord Lytton's policies and the controversial Ilbert Bill.

Madras Native Association	1849	Gazulu Lakshminarasu Chetty	· It was first of such type in Madras.
The Madras Mahajan Sabha	1884	M. Viraraghavachari, B. Subramaniya Aiyer and P. Ananda Charlu	· It was formed to oppose government policies through peaceful ways.

Pre-Congress Socio-Religious Organizations:

Organizations	Year of formation	Place of operation	Founder/Associates	Objectives/ Remarks
Atmiya Sabha	1814	Bengal	Raja Ram Mohan Roy	It was formed to attack social evils of Hinduism and spread of monotheism. It campaigned against caste rigidities, idol worship, social evils like Sati, etc.
Brahma Samaj	1828	Bengal	Raja Ram Mohan Roy	The long-term agenda of Brahma Samaj was to purify Hinduism from evils of idolatry, meaningless rituals and to preach monotheism.
Dharma Sabha	1830	Bengal	Raja Radhakant Deb	To counter the propaganda of Brahma samaj. Even he was the supporter of 'Sati System'. However, it was in favour of the promotion of western education (including women).
Tattvabodhini Sabha	1839	Bengal	Maharishi Debendranath Tagore	The systematic study of India's past with rational outlook and to propagate the ideas of Raja Ram Mohan Roy.
Young Bengal movement/ Derozians	1830s	Bengal	Henry Vivian Derozio	To foster the ideals of equality, fraternity, liberty and freedom; to question all authority; political and social reforms.
Prathna Samaj	1867	Bombay	Founder: Atmaram Pandurang Associate: M. G. Ranade, R. G. Bhandarkar and N. G. Chandavarkar	Women education, widow remarriage, denounce caste system and raising the age of marriage for both boys and girls.
Brahma Samaj of India	1866	Bengal	Keshav Chandra Sen	To promote inter-caste marriages; denounce caste

				system; assimilate ideas from all religions
Arya Samaj	1875	Earlier Bombay; then shifted to Lahore	Dayanand Saraswati	Establish a casteless and classless society in India. It propagated the infallibility of Vedas; Encouraged inter-caste marriages and Widow remarriage; Strongly criticized the Hindu belief system regarding Maya and moksha.
Sadaran Brahma Samaj	1878	Bengal		After the split of 1878, the disgusted followers of Keshav Chandra Sen established this new organization. It was based on the original ideals of Brahma Samaj.
Tayyuni	1839		Karmat Ali Jaunpuri	Based mainly on the teaching of Shah Walimullah movement.
Indian Reform Association	1870	Bengal	Keshav Chandra Sen	To organize people against child marriage and improve women's social condition
Satya Sodhak Samaj (Truth seeker's society)	1873	Bombay	Jyotibha Phule	Social service; upliftment of women and lower caste by providing them education
Deccan Educational Society	1884	Bombay	M.G Ranade	Spread of education in Western India
Theosophical Society	1875 (In 1882, headquarters were shifted to Adiyar)	United States	Madame H. P. Blavatsky and M. S. Olcott. Annie Besant took charge after the death of Olcott.	Accepted the Hindu beliefs of incarnation and transmigration of the soul. Aimed to work for the universal brotherhood of humanity without any discrimination based on religion,

				race, caste, creed or colour.
Seva Sadan	1885		Behramji M. Malabari	This organization took care of exploited and discarded women of society. It was not caste or class specific and was open to all.
Rehnumai Mazdayasnan Sabha (Religious reform Association)	1851	Bombay	Dada Bhai Naoroji, K. R. Cama, S. S. Bengalee	It was a socio-religious reform movement of Parsis. The main objective of this organization was- upliftment of women, removal of the purdah system, promote western education in the Persian community. It also aimed at restoration of the Zoroastrian religion.

Governor-General and Viceroy of India

Governors of Bengal (1757–74)

Robert Clive

Governor of Bengal during 1757–60 and again during 1765–67 and established Dual Government in Bengal from 1765–72.

Clive's initial stay in India lasted from 1744 to 1753.

He was called back to India in 1755 to ensure British supremacy in the subcontinent against the French.

In 1757, Clive along with Admiral Watson was able to recapture Calcutta from the Nawab of Bengal Siraj Ud Daulah.

In the Battle of Plassey, the Nawab was defeated by the British despite having a larger force.

Clive ensured an English victory by bribing the Nawab's army Commander Mir Jaffar, who was installed as Bengal's Nawab after the battle.

Clive was also able to capture some French forts in Bengal.

For these exploits, Robert Clive was made Lord Clive, Baron of Plassey.

As a result of this battle, the British became the paramount power in the Indian subcontinent.

Bengal became theirs and this greatly increased the company's fortunes. (Bengal was richer than Britain at that time).

This also opened up other parts of India to the British and finally led to the rise of the British Raj in India. For this reason, Robert Clive is also known as "Conqueror of India".

Vansittart (1760–65): The Battle of Buxar (1764).

Cartier (1769–72): Bengal Famine (1770).

Governors-General of Bengal (1774–1833)

Warren Hastings (1772–1785)

First Governor-General of Bengal.

Brought the Dual Government of Bengal to an end by the Regulating Act, 1773

Became Governor-General in 1774 through the Regulating Act, 1773.

Wrote an introduction to the first English translation of the 'Gita' by Charles Wilkins

In 1781, he founded the Calcutta Madrasa, for the promotion of Islamic studies

He founded the Asiatic Society of Bengal with William Jones in 1784.

Auctioned the right to collect land revenue to the highest bidder; Divided Bengal into districts and appointed collectors and other revenue officials.

Rohilla War (1774); 1st Anglo-Maratha War (1776–82): 2nd Anglo-Mysore War (1780–84).

Lord Cornwallis (1786–93)

Established lower courts and appellate courts

Sanskrit College established by Jonathan Duncan

Permanent Settlement in Bihar and Bengal in 1793

Introduction of Cornwallis Code

Introduction of Civil Services in India

3rd Anglo-Mysore War (defeat of Tipu and the Treaty of Serinagpatanam, 1792).

Sir John Shore (1793–98)

Policy of Non-intervention

Charter Act of 1793

Battle of Kharda between Nizam and the Marathas (1795).

Lord Wellesley (1798–1805)

He adopted the policy of Subsidiary Alliance- a system to keep the Indian rulers under control and to make British the supreme power.

Fort William College at Calcutta.

Formation of Madras Presidency in 1801.

4th Anglo-Mysore War (1799)-defeat and the death of Tipu Sultan; 2nd Anglo-Maratha War (1803–05)-defeat of the Scindia, the Bhonsle and the Holkar; Treaty of Bassein (1802).

Subsidiary Alliance in India

The Subsidiary Alliance System was used by Wellesley to bring Indian Slates within the orbit the British political power. The system played a very important part in the expansion of the Company's dominions and many new territories were added to the Company's possessions.

There were four stages in it:- In the first stage, the Company undertook to lend its troops to the friendly Indian prince to assist him in his wars.

In the second stage, the Company's sent troops to the field on their own account with the assistance of an Indian ally who made a common ally.

The next stage was reached when the Indian ally was not to supply men but money. The company undertook to raise, train and equip an army under English officers and render to the ally a fixed number of troops on receiving a sum of money towards the cost of these troops.

The final stage was the next logical step. The Company undertook to defend the territories of an Indian ally and for that purpose stationed a subsidiary force in the territory of the state. The Indian ally was asked not to pay money but surrender territory from the revenue of which the expenses of the subsidiary force were to be met.

The Indian states were to conduct negotiations with other states through the Company.

The state had to accept a British Resident at its headquarters.

The Alliance enabled the Company to maintain a large standing army at the expense of Indian princes. It disarmed the Indian states and threw British protectorate over them.

The states that accepted this policy were the Nizam of Hyderabad, the ruler of Mysore, the Raja of Tanjore, the Nawab of Awadh, the Peshwa, the Bhonsle Raja of Berar, the Scindia, the Rajputs of Jodhpur, Jaipur, etc.

George Barlow (1805–1807): Vellore Mutiny (1806)

Lord Minto I (1807–1813)

He concluded the Treaty of Amritsar (1809) with Maharaja Ranjit Singh.

Charter Act of 1813 was passed.

Lord Hastings (1813–1823)

Ended the policy of Non-intervention and adopted the policy of intervention and war.

Creation of Bombay Presidency in 1818.

Establishment of Ryotwari System in Madras.

Anglo-Nepalese War (1813–23); 3rd Anglo-Maratha War (1817–18). Hastings forced humiliating treaties on Peshwa and the Scindia

Lord Amherst (1823–28)

First Anglo Burmese War (1824-26)

Acquisition of territories in Malay Penisula; Capture of Bharatpur (1826).

Lord William Bentick (1828–33)

Most liberal and enlightened Governor-General of India; Regarded as the Father of Modern Western Education in India

He carried out social reforms such as the abolition of Sati Pratha with the help of Raja Ram Mohan Roy, Suppression of Thuggee.

Annexation of Mysore (1831).

Passed the Charter Act of 1833, which provided that no Indian subject of Company was to be debarred from holding an office on account of his religion, place of birth, descent and colour.

On the recommendation of Macaulay Committee made English the medium of higher education in India.

Established first Medical College in Calcutta.

Governors-General of India (1833–58)

Lord William Bentick (1833–35)

First Governor-General of India

Abolished provincial courts of appeal and circuit set up by Cornwallis, the appointment of Commissioners of revenue and circuit.

Annexed Coorg (1834), Central Cachar (1834) on the plea of misgovernment.

Sir Charles Metcalfe (1835–1836)

Passed the famous Press Law, which liberated the press in India (called Liberator the Press).

Lord Auckland (1836–42)

1st Anglo-Afghan War (1839–42)—a great blow to the prestige of the British in India.

Lord Ellenborough (1842–44)

Brought an end to the Afghan War.

Annexation of Sindh (1843)

War with Gwalior (1843).

Lord Hardinge I (1844–48)

1st Anglo-Sikh war (1845–46) and the Treaty of Lahore 1846 (marked the end of Sikh sovereignty in India.

Gave preference to English education in employment.

Lord Dalhousie (1848–56)

Shifted the headquarters of Bengal Artillery from Calcutta to Meerut.

Shimla was made the permanent headquarters of the army & summer capital.

Formation of Gurkha regiments took place in his reign.

Youngest Governor-General of India (36 Years), & also known as

Father of Indian Telegraph

Father of Indian Railways

Father of Indian Postal system

Father of Indian Engineering Services

Maker of modern India

Abolished Titles and Pensions, Widow Remarriage Act (1856).

Introduced the system of Centralized control in the newly acquired territories known as Bon-Regulation system

Recommended the Thomsonian system of Vernacular education for the whole of the Northwestern Provinces (1853)

Wood's Educational Despatch of 1854 and opening of Anglo-Vernacular Schools and Government Colleges.

Started the first railway line in 1853 (connecting Bombay with Thana)

Started an electric telegraph service.

Laid the basis of the modern postal system (1854)

A separate public works department was set up for the first time.

Started work on the Grand Trunk Road and developed the harbours of Karachi, Bombay and Calcutta.

Introduced Doctrine of Lapse (Captured Satara (1848), Jaitpur and Sambhalpur (1849), Baghat (1850), Udaipur (1852), Jhansi (1853) and Nagpur (1854); Fought 2nd Anglo-Sikh War (1848–49) and annexed the whole of the Punjab; 2nd Anglo-Burmese War (1852) and annexation of Lower Burma or Pegu; Annexation of Berar in 1853; Annexation of Avadh in 1856 on charges of maladministration.

Lord Canning (1856–58)

The last Governor-General and first Viceroy of India

Revolt of 1857; Passed the Act of 1858, which ended the rule of the East India Company.

Withdrew Doctrine of Lapse.

Governor-General & Viceroys (1858–1947)

Lord Canning (1858–62)

He was the Governor-General during Mutiny of 1857 and after the war, he was made the first Viceroy of India.

The Indian Councils Act of 1862 was passed, which proved to be a landmark in the constitutional history of India

The Indian Penal Code of Criminal Procedure (1859) was passed

The Indian High Court Act (1861) was enacted

Income Tax was introduced for the first time in 1858

The Universities of Calcutta, Bombay and Madras founded in 1857.

Lord Elgin I (1862–63)

Wahabi Movement (Pan-Islamic Movement).

High Courts were established at Calcutta, Bombay and Madras in 1862

Sir John Lawrence (1864–69)

Telegraphic communication was opened with Europe;

Expanded canal works and railways

Bhutan War (1865)

Advocated State-managed railways

Created the Indian Forest Department and recognised the native Judicial service.

He introduced various reforms and became the member of Punjab Board of Administration after the second Sikh war.

He was known as the Saviour of Punjab.

Lord Mayo (1869–72)

Introduced financial decentralization in India

Established Rajkot College at Kathiawar and Mayo College at Ajmer for the princes

Organised the Statistical Survey of India

Established the Department of Agriculture & Commerce.

He was the only Viceroy to be murdered in office by a Pathan convict in Andamans in 1872.

For the first time in Indian history, a census was held in 1871.

Lord Northbrook (1872–76)

Kuka Movement of Punjab took a rebellious turn during his period.

Lord Lytton (1876–80)

Most infamous Governor-General pursued free trade and abolished duties on 29 British manufactured goods which accelerated drain of the wealth of India

Arranged the Grand Darbar in Delhi (in 1877) when the country was suffering from a severe famine

Passed the Royal Title Act (1876) and Queen Victoria was declared as the Kaiser-i-Hind

Arms Act (1878) made mandatory for Indians to acquire a license for arms

Passed the infamous Vernacular Press Act (1878)

Proposed the plan of Statutory Civil Service in 1878-79 and lowered the maximum age limit from 21 to 19 years

Lord Ripon (1880–84)

Repeal of the Vernacular Press Act, 1882

The First Factory Act, 1881 to improve labour condition

Resolution of Local Self Government in 1882

Resolution on Land Revenue Policy

Appointed Hunter Commission (for education reforms) in 1882

The Ilbert Bill controversy erupted during his time (1883) which enabled Indian district magistrates to try European criminals. But this was withdrawn later.

Lord Dufferin (1884–88)

3rd Burmese War (Annexation of Upper and Lower Burma) in 1885.

Establishment of Indian National Congress in 1885.

Lord Lansdowne (1888–94)

The second Factory Act of 1891; Categorization of Civil Services into imperial, provincial and subordinate.

Indian Council Act of 1892 (introduced elections which were indirect).

Appointment of the Durand Commission to define the line between British India and Afghanistan (1893).

Lord Elgin II (1894–99)

The Munda uprising (under Birsa Munda) of 1899.

Convention delimiting the frontier between China and India was ratified.

The great famine of 1896–97.

Lyall Commission appointed after famine (1897).

The assassination of two British officials-Rand & Amherst-by Chapekar Brothers in 1897.

Lord Curzon (1899–1905)

Appointed a Police Commission in 1902 under Andrew Frazer.

Set up the Universities Commission and accordingly the Indian Universities Act of 1904 was passed.

Set up the Department of Commerce and Industry.

Calcutta Corporation Act (1899).

Passed the Indian Coinage and Paper Currency Act (in 1899) and put India on a gold standard.

Partition of Bengal took place in 1905.

Created the NWFP and Archaeological Survey of India.

Lord Minto II (1905–10)

Swadeshi Movement (1905–08).

Foundation of the Muslim League, 1906.

Surat session and split in the Congress (1907).

Newspapers Act, 1908.
Morley-Minto Reforms, 1909.
Lord Hardinge II (1910–16)
Annulment of the partition of Bengal (1911).
Transfer of Capital from Calcutta to Delhi (1911).
Delhi Darbar and Coronation of King George V and Queen Mary (1911).
Establishment of Hindu Mahasabha by Madan Mohan Malviya (1915).
Lord Chelmsford (1916–21)
Home Rule Movement launched by Tilak and Annie Besant (1916).
Lucknow Pact between Congress and Muslim League (1916).
The arrival of Gandhi in India (1915).
Champaran Satyagraha (1917).
Montague's August Declaration (1917).
Kheda Satyagraha and Satyagraha at Ahmedabad (1918).
Government of India Act (1919).
Repressive Rowlatt Act (1919).
Jalianwala Bagh Massacre (1919).
Khilafat Movement (1920–22).
Non-cooperation Movement (1920–22).
Saddler Commission (1917) and an Indian Sir S. P. Sinha was appointed Governor of Bengal.
Lord Reading (1921–26)
Criminal Law Amendment Act and abolition of cotton excise
Repeal of Press Act of 1910 & Rowlatt Act of 1919
Violent Moplah rebellion in Kerala (1921)
Foundation of CPI (1921)
Chauri Chaura Incident (1922)
Foundation of Swaraj Party (1923)
Kakori Train Dacoity (1925)
Foundation of RSS (1925)
Murder of Swami Shardhanand (1926).
Suppressed non-cooperation movement.
Lord Irwin (1926–31)
Simon Commission announced in 1927.
Butler Commission (1927); Nehru Report (1928).
14 points of Jinnah (1929); Lahore session of Congress and 'Poorna Swaraj' declaration (1929).
Civil Disobedience Movement (1930).
Dandi march (1930).
1st Round Table Conference (1930).
Gandhi-Irwin Pact (1931).
Martyrdom of Jatin Das (hunger strike).
Lord Willingdon (1931–36)
2nd Round Table Conference (1931).
Civil Disobedience Movement (1932).
The announcement of MacDonald's Communal Award (1932).
3rd Round Table Conference.
Foundation of Congress Socialist Party-CSP (1934).
Government of India Act (1935).
Burma separated from India (1935).

All India Kisan Sabha (1936).

Poona Pact was signed between Ambedkar and Gandhi.

Lord Linlithgow (1936–43)

First General Election (1936–37).

Congress ministries in 1937 and Resignation of Congress ministries in 1939.

'Deliverance Day' by Muslim League in 1939.

Foundation of Forward Block by S.C. Bose (1939).

Lahore Resolution (1940); August Offer (1940); Cripps Mission (1942); Quit India Movement (1942) and Outbreak of Second World War in 1939.

Lord Wavell (1943–1947)

R. Formula 1944; Wavell Plan and Shimla Conference in 1945.

End of 2nd World War in 1945.

INA Trials in 1945; Naval mutiny in 1946.

Cabinet Mission, 1946 and acceptance of its proposals by Congress.

Direct Action Day by the Muslim League on 16th August 1946 and the first meeting of the constituent assembly was held on Dec. 9, 1946.

Lord Mountbatten (March–August 1947)

Announced the 3 June 1947 Plan; Introduction of Indian Independence Bill in the House of Commons and passed by the British Parliament on July 4, 1947.

Appointment of 2 boundary commissions under Sir Cyril Radcliffe.

Governor Generals of Independent India (1947–50)

Lord Mountbatten (1947–48)

The first Governor-General of free India; Kashmir acceded to India (Oct. 1947); Murder of Gandhi (Jan. 30, 1948).

C. Rajagopalachari (June 1948–January 25, 1950)

The last Governor-General of free India; The only Indian Governor-General.

INDIAN NATIONAL MOVEMENT

EMERGENCE OF INDIAN NATIONAL CONGRESS (1885)

Allan Octavian Hume, a retired civil servant in the British Government took the initiative to form an all-India organization.

Thus, the Indian National Congress was founded and its first session was held at Bombay in 1885.

The history of the Indian National Movement can be studied in three important phases:

The phase of moderate nationalism (1885-1905) when Congress continued to be loyal to the British crown.

The years 1906-1916 witnessed- Swadeshi Movement, the rise of militant nationalism and the Home Rule Movement. The repressive measures of the British gave rise to extremists within Congress like Bipin Chandra Pal, Bal Gangadhar Tilak and Lala Lajpat Rai (Lai, Bal, Pal), along with Aurobindo Ghosh

The period from 1917 to1947 is known as the Gandhian era.

Important Sessions of Indian National Congress

Year	Venue	President
1885	Bombay	W.C.Bannerji
1886	Calcutta	Dadabhai Naoroji
1893	Lahore	"
1906	Calcutta	"
1887	Madras	Badruddin Tyyabji (first Muslim President)
1888	Allahabad	George Yule (first English President)

1889	Bombay	Sir William Wedderburn
1890	Calcutta	Sir Feroze S.Mehta
1895, 1902	Poona, Ahmedabad	S.N.Banerjee
1905	Banaras	G.K.Gokhale
1907, 1908	Surat, Madras	Rasbehari Ghosh
1909	Lahore	M.M.Malviya
1916	Lucknow	A.C.Majumdar (Reunion of the Congress)
1917	Calcutta	Annie Besant (first woman President)
1919	Amritsar	Motilal Nehru
1920	Calcutta (sp.session)	Lala Lajpat Rai
1921,1922	Ahmedabad, Gaya	C.R.Das
1923	Delhi (sp.session)	Abdul Kalam Azad (youngest President)
1924	Belgaon	M.K.Gandhi
1925	Kanpur	Sarojini Naidu (first Indian woman President)
1928	Calcutta	Motilal Nehru (first All India Youth Congress Formed)
1929	Lahore	J.L.Nehru (Poorna Swaraj resolution was passed)
1931	Karachi	Vallabhbhai Patel (Here, resolution on Fundamental rights and the National Economic Program was passed)
1932, 1933	Delhi, Calcutta	(Session Banned)
1934	Bombay	Rajendra Prasad
1936	Lucknow	J.L.Nehru
1937	Faizpur	J.L.Nehru (first session in a village)
1938	Haripura	S.C.Bose (a National Planning Committed set-up underJ.L.Nehru).
1939	Tripuri	S.C.Bose was re-elected but had to resign due to protest by Gandhiji (as Gandhiji supported Dr.Pattabhi Sitaramayya). Rajendra Prasad was appointed in his place.
1940	Ramgarh	Abdul Kalam Azad
1946	Meerut	Acharya J.B.Kriplani
1948	Jaipur	Dr.Pattabhi Sitaramayya.

Moderate Nationalism

Surendranath Banerjee: was called the Indian Burke. He firmly opposed the Partition of Bengal. He founded the Indian Association (1876) to agitate for political reforms. He had convened the Indian National Conference (1883) which merged with the Indian National Congress in l886.

Subramanya Aiyar preached nationalism through the Madras Mahajana Sabha. He also founded the Hindu and Swadesamitran.

Dadabhai Naoroji was known as the Grand Old Man of India. He is regarded as India's unofficial Ambassador in England. He was the first Indian to become a Member of the British House of Commons.

Gopal Krishna Gokhale was regarded as the political guru of Gandhi. In 1905, he founded the **Servants of India Society** to train Indians to dedicate their lives to the cause of the country.

Indian National Movement (1905-1917)

The period from 1905 was known as the era of extremism in the Indian National Movement.

The extremists or aggressive nationalists believed that success could be achieved through bold means.

The important extremist leaders were Lala Lajpat Rai, Bal Gangadhar Tilak, Bipin Chandra Pal and Aurobindo Ghosh.

Leaders of the Extremists

The extremists were led by Bala Gangadhar Tilak, Lala Lajpat Rai, Bipin Chandra Pal and Aurobindo Ghosh

Bal Gangadhar Tilak is regarded as the real founder of the popular anti-British movement in India. He was known as 'Lokamanya'. He attacked the British through his weeklies The Maratha and the Kesari. He was jailed twice by the British for his nationalist activities and in 1908 deported to Mandoli for six years. He set up the Home Rule League in 1916 at Poona and declared "Swaraj is my birth-right and I will have it."

Lala Lajpat Rai is popularly known as the 'Lion of Punjab'. He played an important role in the Swadeshi Movement. He founded the Indian Home Rule League in the US in 1916. He was deported to Mandalay on the ground of sedition. He received fatal injuries while leading a procession against the Simon Commission and died on November 17, 1928.

Bipin Chandra Pal began his career as a moderate and turned an extremist.

Aurobindo Ghosh was another extremist leader and he actively participated in the Swadeshi Movement.

He was also imprisoned. After his release, he settled in the French territory of Pondicherry and concentrated on spiritual activities

PARTITION OF BENGAL (1905)

Curzon announced the partition of Bengal.

The reason for partition was given as an attempt to improve administration.

But the real aim was to 'Divide and Rule'. The partition was done in order to create a separate State for Muslims and so introduce the poison of communalism in the country.

Swadeshi Movement

The Swadeshi Movement involved programmes like the boycott of government service, courts, schools and colleges and of foreign goods, Promotion of Swadeshi goods, Promotion of National Education through the establishment of national schools and colleges.

It was both a political and economic movement

In Bengal, even the landlords joined the movement

The women and students took to picketing. Students refused using books made of foreign paper.

It was Bal Gangadhar Tilak who realized the importance of boycott as a weapon that could be used to paralyze the whole British administrative machinery in India.

The boycott and Swadeshi movements were instrumental in the establishment of swadeshi enterprises - textile mills, banks, hosiery, tanneries, chemical works and insurance companies. Swadeshi stores were opened.

This made the British reverse the partition of Bengal and unite it in 1911.

Hind Swaraj

When the movement against the partition of Bengal was at its height the annual session of the Congress was held at Calcutta in 1906 under the president ship of Dadabhai Naoroji.

This session is very important because of the conciliation between the Moderates and Extremist

The Congress condemned the Partition of Bengal. In the words of DadaBhai Naoroji, it is a bad blunder of England.

Promotion of education was declared as the aim of Congress.

The Swadeshi and the Boycott were accorded full support by the Congress. For the first time Boycott was authorised to be used as a political weapon.

Formation of Muslim League (1906)

In December 1906, during the Muhammadan Educational conference in Dacca, Nawab Salim Ullah Khan raised the idea of establishing a Central Muhammadan Association to take care of Muslim interests.

Accordingly, on 30th December 1906, the All India Muslim League was founded. Another prominent person, Aga Khan was chosen as its president.

Surat Session (1907)

The INC split into two groups -The extremists and The moderates, at the Surat session in 1907.

Extremists were led by Bal, Pal, Lai while the moderates by G.K. Gokhale.

Controversy arose over the elected president, Ras Bihari Ghosh, as extremists didn't accept him.

Extremists wanted Lala Lajpat Rai to be chosen.

The government after this launched a massive attack on extremists by suppressing their newspapers and arresting their leaders.

MORLEY-MINTO REFORMS (1909)

The Council Act of 1909 was an extension of the 1892 reforms, also known as the Morley-Minto Reforms after the names of the then Secretary of State (Lord Morley) and the then Viceroy (Lord Minto).

It increased the members of the Legislative Assembly from sixteen to sixty.

A few non-elected members were also added.

Though the members of the Legislative Council were increased, they had no real powers. They remained mainly advisory in character.

They could not stop any bills from being passed. Nor did they have any power over the budget.

The British made another calculated move to sow the seed of communalism in Indian politics by introducing separate electorates for the Muslims.

This meant that from the constituencies dominated by Muslims only Muslim candidates could be elected.

Hindus could only vote for Hindus, and Muslims could only vote for Muslims.

Many leaders protested against this communal electorate policy of the British to 'Divide and Rule'.

Annulment of Bengal Partition

It was decided to annul the partition of Bengal in 1911 mainly to curb the menace of revolutionary terrorism.

The annulment came as a rude shock to the Muslim political elite.

It was also decided to shift the capital to Delhi as a sop to the Muslims, as it was associated with Muslim glory, but the Muslims were not pleased.

Bihar and Orissa were taken out of Bengal and Assam were made a separate province.

Ghadar Party (1913)

Formed by Lala Hardayal, Taraknath Das and Sohan Singh Bhakna.

The name was taken from a weekly paper, Ghadar, which had been started on November 1, 1913 to commemorate the 1857 revolt.

HQ was at San Francisco.

The outbreak of the First World War provided the Ghadarites with an opportunity to free India from a Government which was indifferent to their cause.

They began to return to India in thousands for a coordinated revolt in collaboration with the Bengal revolutionaries. Their plan was foiled at the last moment due to treachery.

Komagata Maru Incident

The importance of this event lies in the fact that it created an explosive situation in Punjab.

Komagata Maru was the name of a ship which was carrying 370 passengers, mainly Sikh and Punjabi Muslim would-be immigrants, from Singapore to Vancouver.

They were turned back by Canadian authorities after two months of privation & uncertainty.

It was generally believed that the Canadian authorities were influenced by the British Government.

The ship finally anchored at Calcutta in September 1914 but the inmates refused to board the Punjab-bound train.

In the ensuing with the police near Calcutta, 22 persons died.

Inflamed by this and with the outbreak of the War, the Ghadr leaders decided to launch a violent attack on British rule in India.

They urged fighters to go to India. Bengal revolutionaries were contacted; Political dacoities were committed to raising funds mainly in Punjab.

Thus, an explosive situation was created in Punjab.

NATIONAL MOVEMENT DURING THE FIRST WORLD WAR

The First World War started in the year 1914.

This War was fought among the nations of Europe to get the colonial monopoly. During wartime, the British Government made an appeal to the Indian leaders to join hands with them in their time of crisis.

Indian leaders agreed but they put their own terms and conditions i.e. after the war was over, the British government would give Constitutional (legislative and administrative) powers to the Indian People.

Unfortunately, the steps taken by the British government during World War I created unrest among the Indian people. This was because the British government had taken a huge loan during wartime which they had to repay.

They increased the rent from the land, i.e. lagan. They forcefully recruited Indians in the British Army.

They increased the price of necessary goods and imposed taxes on personal and professional income.

As a result, they had to face protest from Indian society.

Farmers and workers of Champaran, Bardoli, Kheda and Ahmedabad actively protested against the exploitative policies of the British government.

Lakhs of students left schools and colleges. Hundreds of lawyers gave up their practice. Women also significantly contributed to this movement and their participation became wider with the emergence of Gandhi.

The boycott of foreign cloth became a mass movement, with thousands of bonfires of foreign cloth lighting the Indian sky.

Lucknow Session (1916)

The 31st Session of the Congress was held at Lucknow in 1916.

It was presided over by the Ambica charan Majumdar who was a prominent lawyer and was actively associated with the Congress since its birth.

Home Rule League Movement 1916

By early 1915, Annie Besant had launched a campaign to demand self-government for India after the war on the lines of white colonies

She campaigned through her newspapers, New India & Commonweal, and through public meetings and conferences

Two Home Rule Leagues were established, one by BG Tilak at Poona in April 1916 and the other by Mrs Annie Besant at Madras in September 1916

Tilak's Movement concentrated on Maharashtra (excluding Bombay), Karnataka, Central Provinces and Berar

Annie Besant's Movement covered the rest of India (including Bombay)

Complete List of Newspapers and Journals during British India

Name of the Paper/Journal	Year and Place from which Published	Name of the Founder/Editor

Bengal Gazette	1780, Calcutta	James Augustus Hickey
Sambad Kaumudi (weekly in Bengali)	1821	Raja Ram Mohan Roy
Mirat-ul Akbar (First journal in Persian)	1822, Calcutta	Raja Ram Mohan Roy
Banga-Duta (A weekly in four languages- English, Bengali, Persian, Hindi)	1822, Calcutta	Raja Ram Mohan Roy and Dwarkanath Tagore
Bombay Times (from 1861 onwards, The Times of India)	1838, Bombay	Robert Knight and Thomas Bennett
Rast Goftar (A Gujarati fortnightly)	1851	Dadabhai Naoroji
Hindu Patriot	1853, Calcutta	Girishchandra Ghosh
Somprakasha	1858, Calcutta	Dwarkanath Vidyabhushan
Indian Mirror	1862, Calcutta	Devendranath Tagore and NN Sen
Bengalee (this and *Amrita Bazar Patrika*- the first vernacular papers)	1862, Calcutta	Girishchandra Ghosh (taken over by SN Banerjea in 1879)
National Paper	1865, Calcutta	Devendra Nath Tagore
Amrita Bazar Patrika (Bengali in the beginning and later on English Daily)	1868, Jessore District	Sisirkumar Ghosh and Motilal Ghosh
Bangadarshana	1873, Calcutta	BankimChandra Chatterjee
The Statesman	1875, Calcutta	Robert Knight
The Hindu	1878, Madras	GS Aiyar, Viraraghavchari and Subba Rao Pandit
The Tribune	1881, Lahore	Dayal Singh Majeetia
Sudharak		Gopal Ganesh Agarkar
Hindustani and Advocate		GP Verma
Kesari (Marathi daily) and Maharatta (English Weekly)	1881, Bombay	Tilak, Chiplunkar, Agarkar
Swadeshamitran	Madras	GS Aiyar
Paridasak (Weekly)		Bipin Chandra Pal
Yugantar	1906, Bengal	Barindra Kumar Ghosh and Bhupendranath Dutta
Sandhya	1906, Bengal	Brhamanabandab Upadhay
Indian Sociologist	London	Syamji Krishna Verma
Bande Matram	Parish	Madam Bhikaji Cama
Free Hindustan	Vancouver	Taraknath Das
Ghadr	San Francisco	Ghadar Party
Talwar	Berlin	Virendrnath Chattopadhay
Bombay Chronical (a daily)	1913, Bombay	Pherozshahs Mehta, BG Horniman
The Hindustan Times	1920, Delhi	KM Pannikkar as a part of Akali Dal Movement
Leader (in English)		Madan Mohan Malviya
Bahishkrit Bharat	1927	BR Ambedkar

Kudi Arasu (Tamil)	1910	E.V. Ramaswamy Naicker (Periyar), SS MIrajkar, KN Joglekar
Bandi Jivan	Bengal	Sachindranath Sanyal
National Herald	1938, Delhi	Jawaharlal Nehru
Tagzin-ul-Akhlaq (journal)	1871	Sir Syed Ahmed Khan
Kesari (Marathi Daily Newspaper)	1881	Bal Gangadhar Tilak
Comrade (Weekly English Newspaper)	1911	Maulana Mohammad Ali
Al- Balagh and Al-Hilal (Both urdu weekly newspaper)	1912	Abul Kalam Azad
Pratap (Hindi Newspaper)	1913	Ganesh Shankar Vidyarthi
Independent (Newspaper)	1919	Motilal Nehru
Moon Nayak (Marathi Weekly)	1920	BR Ambedkar
Young India (Weekly Journal)	1919	M K Gandhi
Nav Jeevan (Weekly Newspaper)	1929	M K Gandhi
Harijan (Weekly Journal)	1931	M K Gandhi
Hindustan Dainik	1936	Madan Mohan Malviya

Indian National Movement (1917-1947)

Champaran Satyagraha (1917)

   The first civil disobedience movement by Gandhi in the freedom struggle.

   Persuaded by Rajkumar Shukla, an indigo cultivator, Gandhi went to Champaran in Bihar to investigate the conditions of the farmers there.

   Champaran struggle is called the first experiment on Satyagraha by Gandhi.

   It was during this time that Gandhi was given the names 'Bapu' and 'Mahatma' by the people.

Ahmedabad Mill Strike (Feb-March 1918)

   The next scene of Gandhiji's activity was in 1918 at Ahmedabad where an agitation had been going on between the labourers and the owners of a cotton textile mill for an increase of pay.

   While Gandhiji was negotiating with the mill owners, he advised the workers to go on strike and to demand a 35% increase in wages.

   The strike was withdrawn and retrieval later awarded the 35% increase that the workers had demanded.

   Ambalal Sarabhai's sister, **Anasuya Behn**, was one of the main lieutenants of Gandhiji in this struggle in which her brother and Gandhiji's friend was one of the main advisories.

Kheda Satyagraha (March 1918)

   1918 was a year of failed crops in the Kheda district of Gujarat due to droughts.

   As per law, the farmers were entitled to remission if the produce was less than a quarter of the normal output.

   Sardar Vallabhbhai Patel, under Gandhi's guidance, led the farmers in protest against the collection of taxes in the wake of the famine.

Rowlatt Act (1919)

   In 1917, a committee was set up under the presidentship of Sir Sydney Rowlatt to look into the militant Nationalist activities

   Rowlatt Act was passed in March 1919 by the Central Legislative Council

   As per this Act, any person could be arrested on the basis of suspicion.

   No appeal or petition could be filed against such arrests.

   This Act was called the Black Act and it was widely opposed.

   An all-India hartal was organized on 6 April 1919.

Meetings were held all over the country.

Mahatma Gandhi was arrested near Delhi.

Two prominent leaders of Punjab, Dr Satya Pal and Dr Saifuddin Kitchlew, were arrested in Amritsar.

Jallianwala Bagh Massacre (13 April 1919)

The Jallianwala Bagh Massacre took place on 13 April 1919 and it remained a turning point in the history of India's freedom movement

In Punjab, there was unprecedented support to the Rowlatt Satyagraha

On 13 th April, the Baisakhi day (harvest festival), a public meeting was organized at the Jallianwala Bagh (garden)

Dyer marched in and without any warning opened fire on the crowd

According to the official report, 379 people were killed and 1137 wounded in the incident.

Rabindranath Tagore renounced his knighthood as a protest

Khilafat Movement (1920)

The chief cause of the Khilafat Movement was the defeat of Turkey in the First World War.

The harsh terms of the Treaty of Sevres (1920) were felt by the Muslims as a great insult to them.

The whole movement was based on the Muslim belief that the Caliph (the Sultan of Turkey) was the religious head of the Muslims all over the world

Maulana Abul Kalam Azad, M.A. Ansari, Saifuddin Kitchlew and the Ali brothers were the prominent leaders of this movement.

Mahatma Gandhi was particularly interested in bringing the Hindus and the Muslims together to achieve the country's independence.

The Khilafat Movement merged with the Non-Cooperation Movement launched by Mahatma Gandhi in 1920:

Non-Cooperation Movement (1920-1922)

It was approved by the INC at the Nagpur session in December 1920.

The programmes of the Non-Cooperation Movement were:

Surrender of titles and honorary positions

Resignation of membership from the local bodies.

Boycott of elections held under the provisions of the 1919 Act

Boycott of government functions.

Boycott of courts, government schools and colleges.

Boycott of foreign goods

Establishment of national schools, colleges and private panchayat courts.

Popularizing Swadeshi goods and khadi.

National schools such as the Kashi Vidyapeeth, the Bihar Vidyapeeth and the Jamia Millia Islamia were set up.

No leader of the Congress came forward to contest the elections for the Legislatures

In 1921, mass demonstrations were held against the Prince of Wales during his tour of India.

Most of the households took to weaving cloths with the help of charkhas.

But the whole movement was abruptly called off on 11th February 1922 by Gandhi following the Churi Chaura incident

In the Gorakhpur district of U.P. Earlier on 5 th February an angry mob set fire to the police station at Churi Chaura and twenty-two policemen were burnt to death

Swaraj Party

Leaders like Motilal Nehru and Chittaranjan Das formed a separate group within the Congress known as the Swaraj Party on 1 January 1923.

In the Central Legislative Council Motilal Nehru became the leader of the party whereas in Bengal the party was headed by C.R. Das.

After the passing away of C.R. Das in June 1925, the Swaraj Party started weakening.

Simon Commission

In November 1927 the British Government appointed the Simon Commission to look into the working of the Government of India Act of 1919 and to suggest changes.

The Commission consisted of Englishmen without a single Indian representative

The Commission arrived in India in Feb 1928 and was met with countrywide protests.

Peaceful demonstrators were beaten by the police in many places. Lala Lajpat Rai was assaulted and soon after died.

Nehru Report (1928)

In the meanwhile, the Secretary of State, Lord Birkenhead, challenged the Indians to produce a Constitution

The challenge was accepted by the Congress, which convened an all-party meeting on 28 February 1928

A committee consisting of eight was constituted to draw up a blueprint for the future Constitution of India.

It was headed by Motilal Nehru

Civil Disobedience Movement (1930-1934)

In the prevailing atmosphere of restlessness, the annual session of the Congress was held at Lahore in December 1929.

During this session presided over by Jawaharlal Nehru the Congress passed the Poorna Swaraj resolution

Moreover, as the government failed to accept the Nehru Report, Congress gave a call to launch the Civil Disobedience Movement.

The Congress had also observed January 26, 1930, as the Day of Independence.

The same date later became the Republic Day when the Indian Constitution was enforced in 1950.

Dandi March

On 12th March 1930, Gandhi began his famous March to Dandi with his chosen 79 followers to break the salt laws.

He reached the coast of Dandi on 5 April 1930 after marching a distance of 200 miles

On 6 April formally launched the Civil Disobedience Movement by breaking the salt laws.

On 9 April, Mahatma Gandhi laid out the programme of the movement which included making of salt in every village in violation of the existing salt laws;

Round Table Conferences

First Round Table Conference

Held in November 1930 at London and it was boycotted it by the Congress.

In January 1931 in order to create a conducive atmosphere for talks.

The government lifted the ban on the Congress Party and released its leaders from prison.

On 8 March 1931, the Gandhi-Irwin Pact was signed.

As per this pact, Mahatma Gandhi agreed to suspend the Civil-Disobedience Movement and participate in the Second Round Table Conference.

In September 1931, the Second Round Table Conference was held at London

Mahatma Gandhi participated in the Conference but returned to India disappointed as no agreement could be reached on the demand for complete independence and on the communal question.

In January 1932, the Civil-Disobedience Movement was resumed.

The government responded to it by arresting Mahatma Gandhi and Sardar Patel and by reposting the ban on the Congress party

Communal Awards

The Communal Award was announced by the British Prime Minister, Ramsay MacDonald, in August 1932.

Poona Pact (1932)

On 16 August 1932, the British Prime Minister Ramsay MacDonald made an announcement, which came to be as the Communal Award.

Mahatma Gandhi protested against the Communal Award and went on a fast unto death in the Yeravada jail on 20 September 1932.

Finally, an agreement was reached between Dr Ambedkar and Gandhi.

This agreement came to be called the Poona Pact. The British Government also approved of it.

Accordingly, 148 seats in different Provincial Legislatures were reserved for the Depressed Classes in place of 71 as provided in the Communal Award.

Third Round Table Conference (1932)

Congress again did not take part in it.

Nonetheless, in March 1933, the British Government issued a White Paper.

Which became the basis for the enactment of the Government of India Act, 1935.

Government of India Act, 1935

Main features of this act were -

Provision for the establishment of an All India Federation at the Centre, consisting of the Provinces of British India and the Princely States

It did not come into existence since the Princely States refused to give their consent for the union

Division of powers into three lists viz. Federal, Provincial and Concurrent.

Introduction of Diarchy at the Centre

The Governor-General and his council administered the "Reserved subjects"

The Council of Ministers were responsible for the "Transferred" subjects

Abolition of Diarchy and the introduction of Provincial Autonomy in the provinces.

The Governor was made the head of the Provincial Executive but he was expected (not bound) to run the administration on the advice of the Council of ministers.

Provincial Legislatures of Bengal, Madras, Bombay, United Provinces, Bihar and Assam were made bicameral.

Extension of the principle of Separate Electorates to Sikhs, Europeans, Indian Christians and Anglo Indians

Establishment of a Federal Court at Delhi with a Chief Justice and 6 judges.

Second World War & National Movement

In 1937 elections were held under the provisions of the Government of India Act of 1935

Congress Ministries were formed in seven states of India.

On 1 September 1939, the Second World War broke out.

The British Government without consulting the people of India involved the country in the war.

As a mark of protest the Congress Ministries in the Provinces resigned on 12 December 1939

The Muslim League celebrated that day as the Deliverance Day

In March 1940 the Muslim League demanded the creation of Pakistan.

August offer

During the course of the 2nd World War, in order to secure the cooperation of the Indians, the British Government made an announcement on 8 August 1940, which came to be known as the 'August Offer', which proposed –

Dominion status as the objective for India.

Expansion of viceroy's executive council & setting up of a constituent assembly after the war consisting of Indians to decide their constitution according to their social, economic and political conceptions

subject to fulfilment of the obligation of the Government regarding defence, minority rights, treaties with states & all India services

No future constitution to be adopted without the consent of minorities.

Individual Satyagraha

In order to secure the cooperation of the Indians, the British Government made an announcement on 8 August 1940,

The August Offer envisaged that after the War a representative body of Indians would be set up to frame the new Constitution.

Acharya Vinoba Bhave was the first to offer Satyagraha and he was sentenced to three months imprisonment.

Jawaharlal Nehru was the second Satyagrahi and imprisoned for four months.

The individual Satyagraha continued for nearly 15 months.

Cripps Mission (1942)

In the midst of worsening wartime international situation, the British Government in its continued effort to secure Indian cooperation seent Sir Stafford Cripps to India on 23 March 1942. This is known as Cripps Mission.

Quit India Movement (1942-1944)

The failure of the Cripps Mission and the fear of an impending Japanese invasion of India led Mahatma Gandhi to begin his campaign for the British to quit India.

Mahatma Gandhi believed that an interim government could be formed only after the British left India and the Hindu-Muslim problem sorted out.

The All India Congress Committee met at Bombay on 8 August 1942 and passed the famous Quit India Resolution.

On the same day, Gandhi gave his call of 'do or die'

On 8th and 9th August 1942, the government arrested all the prominent leaders of the Congress.

Mahatma Gandhi was kept in prison at Poona.

Pandit Jawaharlal Nehru, Abul Kalam Azad, and other leaders were imprisoned in the Ahmednagar Fort.

At this time, leadership was provided by Ram Manohar Lohia, Achyuta and S.M. Joshi.

The role of Jayaprakash Narain in this movement was important.

A large number of students also left their schools and colleges to join the movement.

The youth of the nation also participated in this movement with patriotism.

In 1944 Mahatma Gandhi was released from jail.

Quit India Movement was the final attempt for the country's freedom.

The British Government ordered for 538 rounds of firing. Nearly 60,229 persons were jailed.

At least 7,000 people were killed.

This movement paved the way for India's freedom. It aroused among Indians the feelings of bravery, enthusiasm and total sacrifice.

Rajgopalachari Formula

Rajagopalachari, the veteran Congress leader, prepared a formula for Congress-League cooperation, accepted to Gandhi.

It was a tacit acceptance of the League's demand for Pakistan.

Hindu leaders led by Vir Savarkar condemned the CR Plan.

Desai-Liaqat Pact

Bhulabhai Desai, leader of the Congress with Liaqat Ali Khan, leader of the Muslim drafted a proposal for the formation of an interim government at the centre, consisting of —

an equal number of persons nominated by the Congress & League in the central legislature

20% reserved seats for minorities

No settlement could be reached between the Congress and the League on these lines

But the fact that a sort of parity between the Congress and the League was decided upon, which had far-reaching

Wavell Plan

A conference was convened by the viceroy, Lord Wavell; at Shimla in June 1945

Aimed to reconstruct the governor general's executive council pending the preparation of a new constitution.

Indian National Army

On 2 July 1943, Subhas Chandra Bose reached Singapore and gave the rousing war cry of 'Dilli Chalo'

He was made the President of Indian Independence League and soon became the supreme commander of the Indian National Army.

The names of the INA's three Brigades were the Subhas Brigade, Gandhi Brigade and Nehru Brigade

The women's wing of the army was named after Rani Lamiae

The Indian National Army marched towards Imphal after registering its victory over Kohima.

After Japan's surrender in 1945

The INA failed in its efforts. Under such circumstances, Subhas went to Taiwan.

Then on his way to Tokyo, he died on 18 August 1945 in a plane crash

The trial of the soldiers of INA was held at Red Fort in Delhi

Pandit Jawaharlal Nehru, Bhulabhai Desai and Tej Bahadur Sapru fought the case on behalf of the soldiers

Cabinet Mission (1946)

After the Second World War, Lord Atlee became the Prime Minister of England.

On 15 March 1946 Lord Atlee made a historic announcement in which the right to self- determination and the framing of a Constitution for India were conceded.

Consequently, three members of the British Cabinet - Pethick Lawrence, Sir Stafford Cripps and A. V. Alexander - were sent to India. This is known as the Cabinet Mission.

The Cabinet Mission put forward a plan for the solution of the constitutional problem.

Provision was made for three groups of provinces to possess their separate constitutions.

The Cabinet Mission also proposed the formation of a Union of India, comprising both British India and the Princely States.

The Union would remain in charge of only foreign affairs, defence and communications. leaving the residuary powers to be vested in the provinces till a new government was elected.

Both the Muslim League and the Congress accepted the plan.

Consequently, elections were held in July 1946 for the formation of a Constituent Assembly.

The Congress secured 205 out of 214 General seats.

The Muslim League got 73 out of 78 Muslim seats.

An Interim Government was formed under the leadership of Jawaharlal Nehru on 2 September 1946.

Mountbatten Plan (1947)

On 20 February l947, Prime Minister Atlee announced in the House of Commons the definite intention of the British Government to transfer power to responsible Indian hands.

Thus, to effect the transference of that power Atlee decided to send Lord Mountbatten as Viceroy to India.

Lord Mountbatten armed with vast powers became India's Viceroy on 24 March 1947.

The partition of India and the creation of Pakistan appeared inevitable to him.

After extensive consultation, Lord Mountbatten put forth the plan of partition of India on 3 June 1947.

The Congress and the Muslim League ultimately approved the Mountbatten Plan. Indian Independence Act, 1947.

The British Government accorded formal approval to the Mountbatten Plan by enacting the Indian Independence Act on 18 July 1947.

The partition of the country into India and Pakistan would come into effect from 15 August 1947.

Education during the British Period

Individual efforts under company rule	Calcutta Madrasah was established by Warren Hastings in 1781 to study Muslim laws and customs. Jonathan Duncan established Sanskrit college at Banaras in 1791 for Hindu laws and philosophy. Fort William College was set up in 1800 by Wellesley for the training of civil servants of the Company. (It was closed in 1802).
Charter Act of 1813	1 lakh rupees were to be spent by the company for the promotion of education in India.
Lord Macaulay's Minute of 1835	Amidst Orientalist-Anglicist controversy, Macaulay supported the latter view. The English language was chosen as the sole medium of education. The government decided to spend limited resources for teaching western sciences and literature. They adopted '**downward filtration theory'** instead of mass education. Note: 'Downward filtration theory' means teaching a few upper- and middle-class people would produce interpreters which would eventually penetrate to the masses. However, this theory failed miserably as envisaged by the British but has helped in the growth of Modern Intelligentsia who shaped the struggle for independence.
Wood's Despatch, 1854	This was also known as "**Magna Carta of English Education in India".** It rejected 'downward filtration theory'. It recommended English for higher studies and vernaculars at the school level. Secular education. Encouraged private enterprises.
Hunter Education Commission, 1882-83	Its objective was to assess the Wood Dispatch. It emphasized on state's role in improving education. Advocated for transfer of control to local bodies (district and municipal boards).
Rayleigh Commission, 1902	To review the performance of universities in India.
Indian Universities Act, 1904	On the recommendation of Rayleigh commission, the act provided for: **greater control over universities** Universities were given due importance for research and studies. the number of fellows reduced. Rules were made stricter for private college affiliations. Gopal Krishna Gokhale called this move a "retrograde measure".
Government Resolution on Education Policy, 1913	Government refused to take up the responsibility of compulsory education. It urged the provincial government to do the same. Even private players were encouraged.

Saddler University Commission, 1917-19	The commission was set up to review Calcutta University which later extended to all universities. 12+3 program (12-year schooling and 3-year degree) A separate board of secondary and intermediate education were to be set up. It laid stress on Female education, applied scientific and technological education, teachers' training.
Hartog Committee, 1929	Laid emphasis on primary education. Quality of education was given priority over a number of schools and colleges. Admissions were highly restricted.
Wardha Scheme of Basic Education (1937)	Zakir Hussain committee formulated this national scheme for basic education. The main principle of 'learning through activity'. secular in approach. First seven years of schooling through mother tongue and English after 8th.
Sergeant Plan of Education, 1944	The sergeant was the educational advisor to the British Government. He advocated a number of reforms and aimed to make the Indian education system equivalent to that of England in 40 years. But it seriously lacked methodology for implementation. It was just lip service of the government.

Revolutionary movements

Chapekar brothers (1897)

This was the first political assassination of British officer post-1857.

Damodar, Balkrishna and Vasudev Chapekar shot at WC Rand, Chairman of the Special Plague Committee.

The Chapekar brothers were hanged.

Alipore Bomb Conspiracy (1908)

Douglas Kingsford was a British Chief Magistrate who was the target of the bomb thrown at Muzaffarpur.

Instead, two women died in the attack.

Prafulla Chakki and Khudiram Bose, who threw the bomb. Prafulla Chakki committed suicide while Bose (18 years) caught and sentenced to death.

Aurobindo Ghosh, Barin Ghosh, Kanailal Dutt and 30 other members of **Anushilan Samiti** were also tried in this case.

Curzon Wyllie's assassination (1909)

He was assassinated in London by Madan Lal Dhingra in the evening of 1 July 1909.

Madan Lal Dhingra had close ties with the **Indian House.**

Howrah Gang Case (1910)

Arrest and trials of 47 Bengali Indian Nationalist of Anushilan Samiti because of the murder of Inspector Shamsul Alam in Calcutta.

He uncovered the revolutionary network of Anushilan Samiti that linked the murder and other robberies.

Delhi Lahore Conspiracy Case (1912)

Assassination attempted on Lord Hardinge, the then Viceroy of India.

On the occasion of the transfer of British capital from Calcutta to Delhi, a bomb was thrown into the viceroy's carriage. Lord Hardinge was injured and an Indian attendant was killed.

it was led by Rash Bihari Bose and Sachin Chandra Sanyal.

The Ghadar Movement (1913)

1907 Lala Hardayal started a weekly called Ghadar.

His association with more leaders led to the formation of the Ghadar party in 1913 in North America. This movement was planned to temper the loyalty of Indian troops, form secret societies and assassinate British officials etc.

This movement was intensified because of the **Komagata Maru incident.**

Kakori Conspiracy (1925)

Case of a train robbery near Kakori in Uttar Pradesh.

It was led by the youth of **Hindustan Republican Association** including Ram Prasad Bismil, Chandrashekhar Azad, Thakur Roshan Singh, Ashfaqulla Khan and others.

In 1924 Hindustan Republican Army was founded at Kanpur by Sachin Sanyal and Jogesh Chandra Chatterjee with an aim to organise armed revolution to overthrow colonial government.

In September 1928 many of the major revolutionaries gathered at Firoz Shah Kotla, set up a new association by adding 'socialist' into their names.

Chittagong Armoury Raid (1930)

It was led by Surya Sen and others were Loknath Bal, Kalpana Dutta, Ambika Chakraborty Subodh Roy etc. They were not able to raid arms but able to cut the telephones and telegraph wires.

Central Assembly Bomb Case (1929) and the Lahore Conspiracy Case (1931)

Bhagat Singh, Sukhdev, Azad and Rajguru avenged the death of Lala Lajpat Rai by killing General Saunders in 1928.

Batukeshwar Dutt and Bhagat Singh threw a bomb in the central assembly against the passage of public safety bill and trade dispute bill. The intention was to popularise the activities and philosophy.

Bhagat Singh was arrested for the case of the killing of General Saunders; this was known as Lahore conspiracy case.

After the trial, Bhagat Singh, Sukhdev and Rajguru executed by hanging in March 1931 and

Chandrashekhar Azad also died the same year in February in the gun battle with the police in Allahabad.

Important Revolutionary Organisations

Name of Organisation	Year of Formation	Affected Area	Founders/Associated members
Anushilan Samiti	1902	Bengal region	Promodha Mitter, Jatindranath Banerjee, Barindra Kumar Ghosh and others.
Jugantar Party	Active during the first World War	Bengal region	Aurobindo Ghosh, Barin Ghosh and Jatindranath Mukherjee or Bagha Jatin
Mitra Mela	1899	Nasik, Bombay and Poona region	Savarkar and his brother
Abhinav Bharat/ Young India Society (Mitra mela merged into this)	1904	Nasik, Bombay and Poona region	Savarkar and his brother
Swadesh Bandhab Samiti	1905	Bengal region	Ashwini Kumar Dutta

Hindustan Republican Association (HRA)	1924	Kanpur	Sachindra Nath Sanyal, Narendra Mohan Sen, Pratul Ganguly
Hindustan Socialist Republican Association Army (HSRA)	1928	New Delhi	Chandrasekhar Azad, Bhagat Singh, Sukhdev Thapar
Bharat Naujawan Sabha	1926	Lahore	Bhagat Singh
Indian Home Rule Society	1905	London	Shyamji Krishna Varma
Gadar Party	1913	USA & Canada (North America)	Lala Hardayal
Indian Independence League	1907	California (USA)	Taraknath Das
Berlin Committee for Indian Independence	1915	Berlin	Virendranath Chattopadhyay, Bhupendra Nath Dutta, Lala Hardayal and others with the help of the German foreign office

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Zamindari System

In 1793, Lord Cornwallis introduced the Permanent Settlement system for fixing the land revenue at a permanent amount. It was introduced in areas of Bengal and Bihar. It was later extended to Orissa, Northern Districts of Madras and Districts of Varanasi. In this system, zamindars were recognised as the owner of lands. Its provisions are:

Zamindars and revenue collectors were converted into landlords. They acted as agents of government in collecting land revenue from ryots.

The right of ownership of land made hereditary and transferable.

The attempt of the official was to secure the maximum amount. Hence rent of revenue was fixed very high.

Zamindars were to give 10/11th of the rental they derived, keeping the only 1/11th for themselves.

If rental of zamindar's estate increased as a result of the extension of cultivation and improvement in agriculture, he would keep the entire amount of the increase.

On the other hand, even if the crop had failed, he had to pay his revenue rigidly on the due date; otherwise, his lands were to be sold.

THE RYOTWARI SYSTEM:

This system was introduced on the recommendation of Reed and Thomas Munro by Waren Hasting. It was considered to be a continuation of the state of affairs that existed in the past. It was introduced in parts of Madras and Bombay Presidencies at the beginning of the nineteenth century. Its provisions were:

The cultivator was to be recognised as the owner of his land. So the payment of land revenue was direct to be done by him.

It was not a permanent system and was revised periodically after 20 to 30 years when revenue demand was raised.

Cultivators could sale, mortgage and lease land on the condition that they pay taxes regularly.

THE MAHALWARI SYSTEM:

The system of Mahalwari was introduced by Holt Mackenzie and was mainly centralised in Ganga valley, the North West province, parts of Central India and Punjab. This was a modified form of the zamindari system. This was in congruence with the traditional system of joint land rights on the villages in the said provinces. Its provisions were:

The village was taken as a unit for assessment of land revenue.

On the whole community in the village, taxation was imposed as its rights were common.

The landlord or head of the family claimed to be the landlord of the village or the estate (mahal) with whom the settlement was taken place.

There was a periodic revision of land revenue.

The collection target was to be divided among cultivators.

So everyone was responsible to meet the target of revenue.

INDIAN POLITY

Historical Evolution of Indian Constitution

The Company Administration

Regulating Act - 1773

(1) The post of 'GOVERNOR' was now made 'GOVERNOR-GENERAL' and Bengal was the first province to have Warren Hastings as the first Governor-General. He was assisted by an executive council of four members.

(2) The Supreme Court at Calcutta was established with one chief justice and three other judges. Sir Elijah Impey was the Chief Justice.

Pitt's India Act – 1784

(1) Created another body- 'BOARD OF CONTROL' to manage political affairs in India. COURT OF DIRECTORS kept on managing commercial affairs though.

(2) Thus, companies' possessions were for the first time called 'British possessions in India' and the commercial wing was headed by the court of directors and political wing headed by the board of control.

(3) The Act was introduced by the then British Prime Minister William Pitt.

Charter Act – 1813:

(1) Ended the monopoly of the trading rights of British East India Company and allowed other companies to participate in trading activities with India.

Charter Act – 1833

(1) Created the post of 'GOVERNOR GENERAL OF INDIA' in place of Governor-General of Bengal. The presidencies of Madras and Bombay were taken away with their respective legislative powers and were made subordinate to the Presidency of Calcutta. William Bentick was the first Governor-General of India.

(2) This act completely ended the commercial activities of the company. The company existed but it became a purely administrative and a political organization.

Charter Act – 1853

(1) Established a separate Governor General's Legislative council.

(2) Introduced and open system of competition for Indians into Civil Services. Macaulay committee was formed (1854) for this purpose. Satyendra Nath Tagore became the first Indian to qualify that service in 1863.

The Crown Administration

Government of India Act of 1858

(1) Also known as Act for Good Government of India.

(2) Abolished the British East India Company. Abolished the Mughal administration as well.

(3) Abolished the Governor General's post and created a new post Viceroy. Lord Canning became the first Viceroy of India.

(4) Also created a new office – Secretary-of-State for India and a 15-member council to assist him. He was a member of British parliament.

Indian Councils Act 1861

(1) Expanded the viceroy's executive council. Made provisions for him to nominate some Indians as non-official members. Lord Canning nominated the Raja of Benaras, the Maharaja of Patiala and Sir Dinkar Rao.

(2) New Legislative councils for Bengal (1862), North Western Frontier Province (1866) and Punjab (1897) were established.

Indian Councils Act 1892

(1) Power of discussing the budget was given to the legislative council in the then India.

(2) Expanded the councils and some members could be nominated to both Central as well as Provincial Legislative Councils.

Indian Councils Act 1909

(1) Also known as Morley-Minto reforms.

(2) The number of members in the Central Legislative council was increased from 16 to 60.

(3) Satyendra Prasad Sinha became the first Indian to be nominated as a law member to the Viceroy's Executive Council.

(4) The communal electorate was introduced. Muslims were given separate representation to elect their representatives. Hence, Minto is also referred to as 'Father of Communal Electorate'.

Government of India Act 1919

(1) Also called as Montague-Chelmsford reforms and it came into effect in 1921.

(2) Central and provincial subjects or lists were introduced where they could frame laws in their respective lists. Provincial subjects were further divided into transferred and reserved. Thus, this act introduced *diarchy*.

(3) Introduced Bicameralism and direct elections.

Government of India Act 1935

(1) Provided for the establishment of an All-India Federation with provinces and princely states as units. The Federation never came into being as princely states did not join it.

(2) Abolished diarchy in the provinces and introduced 'provincial autonomy' in its place. But in centre, it introduced diarchy; however that never came into being.

(3) Introduced bicameralism in provinces as well extended separate electorates to depressed classes as well.

(4) Established RBI and a federal court at the centre.

Indian Independence Act 1947

(1) Partition Plan or the Mountbatten Plan (3rd June 1947) was to give effect to partition of the country and Atlee's declaration (20th February 1947) to provide independence to the Nation.

(2) Created two independent dominions of India and Pakistan, ended British rule and authorised the two independent Nations' constituent assemblies to frame their respective constitutions.

(3) The Indian independence bill got the royal assent on 18th July 1947.

Making of the Indian Constitution

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It was **M.N Roy** who proposed the idea of an independent constituent assembly for India in 1934.

The constituent assembly was formed as per the guidelines suggested by the Cabinet Mission Plan, 1946. The mission was headed by Pethick Lawrence and included two other members apart from him – Stafford Cripps and A.V Alexander.

The total strength of the assembly was 389. However, after partition only 299 remained. It was partly elected and partly nominated.

The elections to form the assembly took place in July-August 1946 and the process was completed by November 1946. The first meeting of the assembly took place on 9th December 1946 and was attended by 211 members.

Dr. Sachhidanand Sinha became the temporary President of the assembly following the French practice.

On 11th December 1946, Dr. Rajendra Prasad and H.C Mukherji were elected as President and Vice-President respectively.

Sir B.N Rau was appointed as the constitutional advisor to the assembly.

On 13th December 1946, Pt. Nehru moved the Objectives resolution which later went on to become the Preamble of the constitution in slightly modified form. The resolution was unanimously adopted on 22nd January 1947.

The Constituent Assembly ratified India's membership of the commonwealth in May 1949. Also, it adopted the National Song and National Anthem on 24th January 1950. Adopted the National Flag on 22nd July 1947.

The assembly met for 11 sessions, took 2 years, 11 months and 18 days to frame up the final draft, sat for 141 days in total and the draft constitution was considered for 114 days. Total amount incurred was around rupees 64 lakhs.

Some **important committees of the constituent assembly** along with their respective chairpersons are as follows:

Union Powers Committee - Jawahar Lal Nehru

Union Constitution Committee - Jawahar Lal Nehru

Provincial Constitution Committee - Sardar Patel

Drafting Committee - B.R Ambedkar

Rules of Procedure Committee - Dr. Rajendra Prasad

Steering Committee - Dr. Rajendra Prasad

Flag Committee - J.B. Kripalani

The following were the members of the Drafting Committee-

Dr. B.R Ambedkar (Chairman)

Alladi Krishnaswamy Ayyar

Dr. K.M Munshi

N. Gopalaswamy Ayyangar

Syed Mohammad Saadullah

N Madhava Rau

TT Krishnamachari

The final draft of the constitution was adopted on 26th November 1949 and it contained 8 schedules, 22 parts, and 395 articles.

VARIOUS SOURCES OF THE INDIAN CONSTITUTION

1. **Government of India Act of 1935-** Federal Scheme, Office of the governor, Judiciary, Public Service Commissions, Emergency provisions and administrative details.

2. **British Constitution-** Parliamentary government, Rule of Law, legislative procedure, single citizenship, cabinet system, prerogative writs, parliamentary privileges, and bicameralism.

3. **US Constitution-** Fundamental rights, independence of the judiciary, judicial review, impeachment of the president, removal of Supreme Court and high court judges and post of vice-president.

4. **Irish Constitution -** Directive Principles of State Policy, the nomination of members to Rajya Sabha and method of election of the president.

5. **Canadian Constitution -** Federation with a strong Centre, vesting of residuary powers in the Centre, the appointment of state governors by the Centre, and advisory jurisdiction of the Supreme Court.

6. **Australian Constitution -** Concurrent List, freedom of trade, commerce and intercourse, and the joint sitting of the two Houses of Parliament.

7. **Weimar Constitution of Germany -** Suspension of Fundamental Rights during Emergency.

8. **Soviet Constitution (USSR, now Russia) -** Fundamental duties and the idea of justice (social, economic and political) in the Preamble.

9. **French Constitution -** Republic and the ideals of liberty, equality, and fraternity in the Preamble.

10. **South African Constitution -** Procedure for amendment of the Constitution and election of members of Rajya Sabha.

11. **Japanese Constitution -** Procedure established by Law.

THE PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity;

and to promote among them all FRATERNITY

assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this 26th day of November 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

1. The term 'preamble' refers to the introduction or preface to the Constitution. It's a kind of summary or essence of the Constitution.

2. The American Constitution was the first, to begin with, a preamble.

3. N.A Palkiwala has termed preamble as 'the identity card of the constitution'.

4. The Preamble is somewhat based on the 'Objectives Resolution' moved by Nehru in the Constituent Assembly.

5. The Preamble has been amended only once so far, that is by 42nd Amendment Act of 1976. Three words were added by that amendment – SOCIALIST, SECULAR, INTEGRITY.

6. The Preamble reveals four ingredients or components:

7. Source of the authority of the Constitution: The Preamble states that the Constitution derives its authority from the people of India.

8. Nature of Indian State: It declares India as a sovereign, socialist, secular democratic and republican polity.

9. Objectives of the Constitution: To provide justice, liberty, equality and fraternity to the citizens of India.

10. Date of adoption of the Constitution: 26th November 1949.

11. In *Berubari Union* case (1960) - the Supreme Court said that the Preamble isn't a part of the Constitution.

12. In *Kesavananda Bharati* case (1973) - the Supreme Court rejected the earlier opinion and held that Preamble *is* a part of the Constitution.

13. The Preamble is neither a source of power to legislature nor a prohibition upon the powers of the legislature. Provisions in the preamble are non-enforceable in the court of law, that is, it's non-justiciable.

THE UNION & ITS TERRITORY

1. **Article 1** declares India, that is, Bharat as a 'Union of States'.

2. **Article 2** empowers the Parliament to 'admit into the Union of India, or establish, new states on such terms and conditions as it thinks fit'. Thus, Article 2 grants two powers to the Parliament: (a) the power to admit into the Union of India new states; and (b) the power to establish new states.

3. **Article 3** relates to the formation of or changes in the existing states of the Union of India. In other words, Article 3 deals with the internal re-adjustment *inter* se of the territories of the constituent states of the Union of India.

CITIZENSHIP

1. The Constitution confers the following rights and privileges on the citizens of India (and denies the same to aliens):

● Rights conferred under Articles 15, 16, 19, 29 & 30.

● Right to vote in elections to the Lok Sabha and state legislative assembly.

● Right to contest for the membership of the Parliament and the state legislature.

● Eligibility to hold certain public offices, that is, President of India, Vice-President of India, judges of the Supreme Court and the high courts, governor of states, attorney general of India and advocate general of states.

3. No person shall be a citizen of India or be deemed to be a citizen of India if he has voluntarily acquired the citizenship of any foreign state **(Article 9)**.

4. Every person who is or is deemed to be a citizen of India shall continue to be such citizen, subject to the provisions of any law made by Parliament **(Article 10)**.

5. Parliament shall have the power to make any provision with respect to the acquisition and termination of citizenship and all other matters relating to citizenship **(Article 11)**.

6. The five modes of acquisition of citizenship as per the citizenship act are (a) By Birth (b) By Descent (c) By Registration (d) By Naturalization (e) By acquisition of any other territory into the Indian Union.

   The Government of India provides citizenship to the people residing in the area that is acquired by a notification. Person occupying such area do not automatically become citizen of Indian on an acquisition of territory.

7. Loss of Citizenship is by – Termination, Renunciation and Deprivation.

8. India provides for single citizenship.

9. PIO- A person registered as PIO card holder under the Ministry of Home Affairs' scheme dated 19-08-2002.

10. OCI- A person registered as Overseas Citizen of India (OCI) under the Citizenship Act, 1955. The OCI scheme is operational from 02-12-2005.

Fundamental Rights

● Fundamental Rights have been described as the Magna Carta of India.
● The concept has been taken from the US' bill of rights. Earliest known evidence of rights was also present in ancient India, Iran etc.
● Following are the articles related to the fundamental rights-
   Article 12- Definition of the State
   Article 13- Laws inconsistent with part-3 or Fundamental Rights

Right to Equality (Article 14- Article 18)

   Article 14-Equality before the law
   Article 15-Prohibition of discrimination on the grounds of religion, race, caste, sex. Or place of birth

Article 16- Equality of opportunity in matters of public employment.
Article 17- Abolition of the untouchability
Article 18- Abolition of titles

Right to Freedom (Article 19- Article 22)
Article 19- Guarantees to all the citizens of India

Right to freedom of speech and expression
Right to assemble peacefully and without arms
Right to form associations or unions
Right to move freely throughout the territory of India
Right to reside and settle in any part of the territory of India
Right to practice any profession or to carry on any occupation, trade, and business
Article 20- Protection in respect of conviction for offences
Article 21- Protection of life & personal liberty
Article 21A- Right to Education
Article 22- Protection against arrest and detention in certain cases

Right Against Exploitation (Article 23- Article 24)

Article 23- Prohibition of traffic in human beings and forced labour
Article 24- Prohibition of employment of children in factories and mines for under the age of 14

Right to Freedom of Religion (Article 25- Article 28)
Article 25- Freedom of conscience and free profession, practice and propagation of religion
Article 26- Freedom to manage religious affairs
Article 27- Freedom as to pay taxes for promotion of any particular religion
Article 28- Freedom from attending religious instruction

Cultural & Educational Rights (Article 29-Article 30)

Article 29- Protection of interest of minorities
Article 30- The right of minorities to establish and administer educational institutions

Right to Constitutional Remedies (Article 32)
Article 32- Right to move the Supreme Court for the enforcement of fundamental rights including the writs of **(i)** *habeas corpus,* **(ii)** *mandamus,* **(iii) prohibition,** **(iv)** *certiorari,* **and (v)** *quo warranto*.

Habeas Corpus: It means "to have the body of". This writ is used to enforce the fundamental right of individual liberty against unlawful detention against both private and public authorities.

Mandamus: It means "We command". This writ is used by the court to order the public official who has failed to perform his duty or refused to do his duty, to resume his work. This writ is not available against the private individuals.

Prohibition: It means "We Forbid". A court that is higher in position issues a Prohibition writ against a court that is lower in position to prevent the latter from exceeding its jurisdiction. This writ is available only against judicial and quasi-judicial bodies.

Certiorari: It means "To be Certified". This writ is issued by a court higher in authority to a lower court or tribunal ordering them either to transfer a case pending with them to itself or squash their order in a case. It is used as both cure and prevention.

Quo Warranto: It means "By what Authority". Supreme Court or High Court issue this writ to prevent illegal usurpation of a public office by a person.

● Article 33 deals with the power of Parliament to modify the fundamental rights.
● Article 34 deals with Martial Law
● Article 35 deals with legislation required to deal with fundamental rights
● Fundamental Rights which are available **only to citizens - 15, 16, 19, 29 and 30.**
● Fundamental Rights those are available to both citizens as well as non-citizens – 14, 20, 21, 21A, 22, 23, 24, 25, 26, 27 and 28.

Directive Principles of the State Policy

Some Important Articles in DPSPs are:

a. To promote the welfare of the people by securing a social order permeated by justice— social, economic and political—and to minimise inequalities in income, status, facilities and opportunities (Article 38).

b. To secure (a) the right to adequate means of livelihood for all citizens; (b) the equitable distribution of material resources of the community for the common good; (c) prevention of concentration of wealth and means of production; (d) equal pay for equal work for men and women; (e) preservation of the health and strength of workers and children against forcible abuse; and (f) opportunities for healthy development of children (Article 39).

c. To promote equal justice and to provide free legal aid to the poor (Article 39 A). This was added by 42nd constitutional amendment act, 1976.

d. To secure the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement (Article 41).

e. To make provision for just and humane conditions for work and maternity relief (Article 42).

f. To take steps to secure the participation of workers in the management of industries (Article 43 A). Also added by 42nd constitutional amendment act, 1976.

g. To organise village panchayats and endow them with necessary powers and authority to enable them to function as units of self-government (Article 40).

h. To promote cottage industries on an individual or co-operation basis in rural areas (Article 43).

i. To prohibit the consumption of intoxicating drinks and drugs which are injurious to health (Article 47).

j. To prohibit the slaughter of cows, calves and other milch and draught cattle and to improve their breeds (Article 48).

k. To secure for all citizens a uniform civil code throughout the country (Article 44).

l. To provide early childhood care and education for all children until they complete the age of six years (Article 45). Also, amended by the 86th constitutional amendment act, 2002.

m. To separate the judiciary from the executive in the public services of the State (Article 50).

n. To promote international peace and security and maintain just and honourable relations between nations; to foster respect for international law and treaty obligations, and to encourage settlement of international disputes by arbitration (Article 51).

Fundamental Duties

Following is the list of FDs:

(a) To abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) To cherish and follow the noble ideals that inspired the national struggle for freedom;

(c) To uphold and protect the sovereignty, unity and integrity of India;

(d) To defend the country and render national service when called upon to do so;

(e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities and to renounce practices derogatory to the dignity of women;

(f) To value and preserve the rich heritage of the country's composite culture;

(g) To protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures;

(h) To develop scientific temper, humanism and the spirit of inquiry and reform;

(i) To safeguard public property and to abjure violence;

(j) To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement; and

(k) To provide opportunities for education to his child or ward between the age of six and fourteen years. **This duty was added by the 86th Constitutional Amendment Act, 2002.**

President of India

(1) Article 52 – There shall be a President of India

(2) Article 53 – the Executive power of the Union: The executive power shall be vested in the President and shall be exercised by him either directly or through officers' subordinate to him.

(3) He is the supreme commander of the defence forces in India.

(4) Though he's only the constitutional head, or titular head, de *jure head* or nominal executive or just a symbolic head.

Important Articles related to the President:

Articles	Provisions
Article 52	The President of India
Article 53	Executive power of the Union
Article 54	Election of the President
Article 55	Manner of Election of President
Article 56	Term of office
Article 57	Eligibility for re-election
Article 58	Qualifications of President's office
Article 59	Conditions of President's office
Article 60	Oath and Affirmation by President
Article 61	Procedure for impeachment

Election of the President

1. The President shall be elected by the members of an ELECTORAL COLLEGE consisting of:

(a) The Elected MPs

(b) The Elected MLAs of the states

(c) The Elected MLAs of National Capital Territory of Delhi (added by 70th Amendment Act, 1992 and with effect from 1-06-1995) and Union territory of Puducherry.

2. Thus**, nominated members of parliament and legislative assemblies and members of legislative councils do not participate in the presidential election.**

3. The election is held in accordance with the system of proportional representation by means of single transferable vote and voting is done by secret ballot.

4. All doubts and disputes arising out of the Presidential elections are decided into and enquired by the Supreme Court whose decision is final.

5. The elections are monitored and conducted by the Election Commission of India.

Impeachment of the President (Article 61)

1. He is impeached for the 'Violation of the Constitution'. However, **the term is NOT defined in the constitution**.

2. The charges can be preferred by either house of the parliament. However, a 14-days' notice shall be served to the President before the acceptance of such a resolution.

3. Also, that notice must be signed by at least one-fourth members of the total members of that house which initiated the charges.

4. After the acceptance of that bill in that house, that impeachment bill must be passed by the majority of 2/3rd of the total membership of that house.

5. Then that bill goes in another house which should investigate the charges and the President shall have the right to appear and to be represented at such an investigation.

6. If another house sustains the charges and finds the President of violation, and passes that resolution by 2/3rd of the total membership of that house, the President stands removed from the date the resolution is so passed.

7. Hence, impeachment is a quasi-judicial process. And though, the **nominated members of Parliament do not participate in his election, they take part in the impeachment** process. Also, states' legislatures do not have a role in the impeachment process.

Important Powers of the President:

Veto Powers

The President of India has three types of Veto powers, namely

1. **Absolute Veto**- Withholding the assent to the bill. The bill then ends and does not become an Act. Example- in 1954, Dr. Rajendra Prasad withheld his assent to the PEPSU Appropriation Bill. Also, in 1991 R. Venkataram withheld his assent to the MPs Salaries, allowances bill.

2. **Suspensive Veto-** Returning the bill for reconsideration. In 2006, President APJ Abdul Kalam used the suspensive veto in the office of profit bill. However, the President can return the bill for reconsideration to the legislature only once, after which he has to give his consent.

3. **Pocket Veto-** Taking no action on the bill sent to the President. There's no time limit provided in the constitution within which the President has to give his assent or sign the bill. Hence, he has a 'bigger pocket' than the American President. In 1986, President Zail Singh applied Pocket Veto to Indian Post Office Amendment bill.

Judicial Powers:

President has the power to grant Pardon, Reprieve, Respite, Remit, Commute the sentence of a convicted person.

  Pardon: It absolves the offender from all sentences and punishment.

  Reprieve: It means a temporary suspension of the execution of the sentence.

  Remission: It reduces the amount of sentence without changing its character.

  Respite: It leads to awarding of a lesser sentence in some special cases. E.g. in case of a pregnant woman

  Commutation: It substitutes one form of punishment for another of a lighter character.

Note:

  The judicial power of the President extends to cases where the sentence has been awarded by court martial and in the cases where punishment is a death sentence. The judicial power of Governor does not extend to both these cases.

Legislative Powers:

The legislative powers of the President are as follows:

  The President summons the houses of the Parliament at least twice a year at the place of his choice.

  He nominates 12 members to the Rajya Sabha.

Some bills such as follows need President's recommendation for their introduction into the Parliament:

A bill for formation of new states or alteration of boundary of existing states.

A money Bill

A Finance Bill

A bill involving taxation or distribution of financial resources to states.

A state bill that seeks to restrict freedom of trade.

Vice-President of India

Important Articles related to Vice-President:

Article	Provisions
Article 63	The Vice-President of India
Article 66	Election of Vice-President
Article 67	Term of office
Article 69	Oath and Affirmation by the Vice-President

● The Vice-President shall be ex-officio Chairman of the Council of States and shall not hold any other office of profit.

● The first Chairperson of the Rajya Sabha - Dr. Sarvepalli Radhakrishnan

● Provided that during any period when the Vice-President acts as President or discharges the functions of the President under article 65, he shall not perform the duties of the office of Chairman of the Council of States and shall not be entitled to any salary or allowance payable to the Chairman of the Council of States under article 97.

● This is the second most important function of the V.P. He can act as the President in case of the death, impeachment, resignation or otherwise of the President of India. However, he can act as the president only for a maximum period of six months (question asked) within which a new president has to be elected.

● The V.P gets the salary, allowance etc. of the President when he acts as the president, not as the chairperson of the Rajya Sabha.

● The **salary, emoluments etc. of the chairperson of the Rajya Sabha is mentioned in the second schedule** of the Constitution of India.

Article 66: Election of Vice-President

● The Vice-President of India is elected by an electoral college consisting of: **Elected and nominated members of both house (Lok Sabha and Rajya Sabha)** of parliament. (MLAs are not included)

● Vice-President of India is elected by proportional representation system by means of the single transferable vote.

● Voting in Vice-President election is done by secret ballot.

● A candidate to be elected to the office of Vice-President, He/she must secure a fixed quota of Votes.

● All disputes related to the election of Vice-President are inquired into and decided by the supreme court whose decision is final.

Eligibility Criteria for Vice-President

● He/she should be the citizen of India

● He/she has completed the age of 35 years.

● He/she should be qualified for the member of Rajya Sabha

● Does not hold any office of profit under union, state or local authority.

● However, for this purpose, the President, Vice-President, Governor of a State and a Minister of the Union or a State, are not held to be holding an office of profit. (An office of profit is an office that would give its occupant the opportunity to gain a financial advantage or benefit).

Removal of Vice-President

Vice-President can be removed by a resolution of Rajya Sabha passed by a majority of all the then members of Rajya Sabha and agreed to by Lok Sabha.

A 14 days day notice needs to be given to the Vice-President.

Procedure of removal of Vice-President cannot be initiated in Lok Sabha.

Parliament of India

Organization of the Parliament

1. The Parliament consists of the President, the Lok Sabha and the Rajya Sabha.

2. Lok Sabha is the Lower House (First Chamber or Popular House) and Rajya Sabha is the Upper House (Second Chamber or House of Elders).

Composition of Rajya Sabha

1.Under Article 80, The maximum strength of the Rajya Sabha is fixed at 250, out of which, 238 are to be the representatives of the states and union territories (elected indirectly) and 12 are nominated by the president.

2. At present, the Rajya Sabha has 245 members. Of these, 229 members represent the states, 4 members represent the union territories, and 12 members are nominated by the president.

3. The Fourth Schedule of the Constitution deals with the allocation of seats in the Rajya Sabha to the states and union territories.

4. The representatives of states in the Rajya Sabha are elected by the elected members of state legislative assemblies. The seats are allotted to the states in the Rajya Sabha are based on their population.

Composition of Lok Sabha

1. The maximum strength of the Lok Sabha is fixed at 552. Out of this, 530 members are to be the representatives of the states, 20 members are to be the representatives of the union territories and 2 members may be nominated by the president from the Anglo-Indian community.

2. At present, the Lok Sabha has 545 members.

3. The representatives of states in the Lok Sabha are directly elected by the people from their respective constituencies.

4. The voting age was reduced from 21 to 18 years by the 61st Constitutional Amendment Act, 1988.

Qualification, disqualifications to be an MP

1. Eligibility

(a) Citizen of India.

(b) Minimum age – 30 years in Rajya Sabha and 25 years in Lok Sabha.

(c) He must possess other qualifications prescribed by Parliament. (Hence, the Representation of People Act, 1951).

2. Criteria for disqualifying an MP:

Only the following criteria are mentioned in the constitution for disqualification of an MP.

(a) If he holds any office of profit under the Union or state government

(b) If he is of unsound mind and stands so declared by a court.

(c) If he is an undischarged insolvent.

(d) if he is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state; and

(e) If he is so disqualified under any law made by Parliament (RPA, 1951).

3. The Constitution also lays down that a person shall be disqualified from being a member of Parliament if he is so disqualified on the ground of defection under the provisions of the Tenth Schedule.

Note: Under the tenth schedule a MP may be disqualified if:

He voluntarily gives up the membership of his political party,

If he abstains from voting in the house contrary to any direction given by his party (unless party condones his actions in 15 days)

An independent member is disqualified if he joins any political party after his election.

4. Double Membership - A person cannot be a member of both Houses of Parliament at the same time.

5. A House can declare the seat of a member vacant if he is absent from all its meetings for a period of sixty days without its permission.

Speaker of the Lok Sabha

- The Speaker is elected by the Lok Sabha from amongst its members (as soon as may be, after its first sitting). The date of election of the Speaker is fixed by the President.

- The Speaker offers his resignation to the Deputy Speaker and he can be removed by a resolution passed by a majority of members of Lok Sabha, however, only after giving him a 14-day notice.

- He presides over a joint sitting of the two Houses of Parliament. Such a sitting is summoned by the President to settle a deadlock between the two Houses on a bill.

- He **decides whether a bill is a money bill or not** and his decision on this question is final.

- Under the Anti-defection law, the authority of the speaker is final on disqualification of a member (subject to judicial review).

- He can't vote in the first instance, though can vote in the event of a tie. When his removal motion is under consideration, he can take part and speak in the proceedings and can vote as well but not in the case of a tie.

Deputy Speaker

- The deputy speaker is elected by the members of Lok Sabha from amongst themselves by simple majority of the members present and voting.

- The speaker and the deputy speaker give their resignation to each other.

- Deputy Speaker can be removed by a resolution passed by a majority of all the then members of the house after serving a 14-day notice to him.

Speaker Pro-tem

- As soon as a new Lok Sabha is elected, the President appoints a Speaker Pro-tem who is usually the senior most member of the house.

- His functions include administering the oath to new speaker and preside over the election of the speaker.

Attorney-General for India

Attorney-General is not a member of Parliament or the Council of Ministers, but he has a right to take part in the proceedings of either house, but he cannot vote.

A person qualified to be a judge of the Supreme Court is appointed the Attorney-General by the President.

He holds the office during the pleasure of the President.

Deputy Chairman of Rajya Sabha

He is elected by the Rajya Sabha from amongst its members and he remains in the office until the expiry of his term as a member.

In the absence of Chairman, Deputy Chairman presides over the functions and proceedings of Rajya Sabha.

Sessions of Parliament

The Budget Session (February to May

The Monsoon Session (July to September); and

The Winter Session (November to December).

The maximum gap between two sessions of Parliament cannot be more than six months

The President summons and prorogues the two houses of parliament.

Important terms related to Sessions of the Parliament:

Prorogation: A session of the house if terminated by an order called the "Prorogation order" made by the President.

Adjournment sin die: It means termination of the sitting of the house without specifying or fixing any date for its next sitting. Such order is made by the Presiding order of the house.

Hung Parliament: When no single party has majority to form the government.

Quorum: Minimum number of members required to carry out business of the house. There should be **at least one-tenth members present** to conduct the business of the house.

Starred and Unstarred Question: A starred question is one to which a member desires an oral answer, and an Un-starred question is one to which written answer is desired by the asking member.

Guillotine: When due to lack of time, demands for grant are put to vote whether they are discussed or not in the house on the last day, it is called Guillotine.

Important points regarding bills:

Money and Finance bills can not be introduced in the Rajya Sabha.

Money, Finance and an Ordinary Bill under Article 3 can only be introduced only on the recommendation of the President.

Constitutional Amendment Bill can be introduced in either house.

The President cannot send back a Money Bill for reconsideration of the of Parliament, he shall give his assent to the Money Bill. A Money bill is defined under the Article 110.

There is no provision for the joint sitting of two houses for Money Bills and Constitutional Amendment Bill.(So far, Joint Session of the Parliament of India has been called for only three bills that have been passed at joint sessions: the Dowry Prohibition Act, 1961, the Banking Service Commission Repeal Bill, 1978, and the Prevention of Terrorism Act, 2002.)

Types of Amendment Procedures:

By simple majority:

Simple Majority means the majority of the members present and voting. i.e. more than 50%. The following Articles are amended under this method:

Admission of new states

Changes in the names and boundaries of the states.

Creation or abolition of legislative councils in the states by the Parliament.

Salaries, allowances of President, Governors and Judges of SC and HC.

Quorum for Houses

Power, Privileges of MPs.

Delimitation of Constituencies.

By Special Majority:

Under this a bill is passed by each house of the parliament by a majority of the total membership of that house and by a majority of not less than $2/3^{rd}$ of the members in the house present and voting. All the Articles of the constitution can be amended by this method except the specific provisions which are mentioned in the Article 368 of the constitution.

By Special majority with ratification by the states:

Some federal matters are amended by this method, under this, the bill is required to be passed by the parliament under special majority and needs to be ratified by more than 50% of the states. There is no time limit within which the states must ratify such bills.

Following provisions fall under this category:

Election and manner of election of the President

Extent of executive power of the union (Art.73) and states (Art. 162)

Union Judiciary

High Courts

Legislative relations between the centre and the states

7th schedule

Provisions dealing with amendment of the constitution (Art. 368)

Important Parliamentary Finance Committees:

Committee on Public Accounts:

The committee on Public Accounts consists of 15 members from Lok Sabha and 7 Members from Rajya Sabha.

The term of office of the members is not more than 1 year.

The committee examines: Account showing the appropriation of sums granted by parliament, Annual Financial Accounts of GoI, Reports of CAG.

Committee on Estimates:

The Estimates Committee consists of 30 members- all from Lok Sabha- who are elected by the Lok Sabha every year from amongst its members according the principle of proportional representation by means of single transferrable vote.

Functions: to examine whether the money is well laid out within the limits of the policy implied in the estimates, to suggest the form in which estimates shall be presented to Parliament.

Committee on Public Undertakings

The committee consists of 15 members elected from Lok Sabha and 7 Members from Rajya Sabha.

Functions: to examine the Reports and Accounts of the public undertakings, Reports of CAG, may also examine such matters which may be referred to it by the house or by the speaker.

Provisions under which the Parliament can make laws on state subjects:

Article 249: If Rajya Sabha passes a resolution with not less than 2/3rd majority, on the ground that it is in national interest, it can allow the parliament to legislate on the state subjects. Such law can be in force of 1 year but can be extended any number of times. It ceases to have effect 6 months after the resolution ceases to be in force.

Article 250: If a national emergency is declared under Article 352, the parliament has the right to make laws with respect to all the 61 subjects in the state list automatically.

Article 252: If legislatures of 2 or more states request the parliament to make a law on the state subject, the parliament can do so. However, such law can be amended or repealed only by the parliament. E.g. Wildlife (Protection) Act, 1972.

Article 253: The Parliament can make laws on the state subjects to comply with any international agreements to which India is a party.

Article 356: If President's rule is imposed in a state the power of the legislature of the state is exercised by the Parliament.

Emergency Provisions in the Constitution:

There are 3 kinds of emergency mentioned in the constitution:

National Emergency- Emergency caused by threat to the security of India by war or external aggression or armed rebellion (Article 352).

> Armed rebellion word replaced the word "internal disturbance" in the 44th Amendment Act, 1978.

> So far National Emergency has been declared 3 times in india.

> **Duration: Initially 1 month**, during which it has to be approved by the parliament by a special majority. If parliament approves the proclamation, then it stays in force for 6 months, it can be approved any number of times but **not more than 6 months at a time**.

> **Revocation:** The proclamation can be revoked by the President at any time, it does not require approval of the Parliament. Also, If not less than **1/10th members** of Lok Sabha issue a notice disapproving the emergency, to the president when Lok Sabha is not in the session, then a special sitting of Lok Sabha has to be held in **the next 14 days to consider such resolution.**

> **Effects:** The administration is converted to unitary. Parliament can enact laws on subjects in state list.

> **Effect on Fundamental Rights:**

>> Article 358 states that when emergency is declared on the grounds of war or external aggression (not on the ground of armed rebellion) the six FRs under Article 19 are automatically suspended.

>> The President, under Article 359, may by order, suspend the operation of any of the other FRs when an emergency is declared on the grounds of War or external aggression.

However, the FRs under Article 20 (Protection in respect to conviction for offences) and Article 21 (Right to life) cannot be suspended even during a national emergency.

President's Rule: Emergency caused by failure of constitutional machinery in the state (Article 356)

President makes the proclamation with or without the report of the governor.

President cannot assume the powers of the High Court

Duration: Initially for 2 months, after approval of the parliament- 6 months. At a stretch it can be in force maximum for one year. It can be extended beyond on year but in no case beyond 3 year in following cases:

An emergency under Article 352 exists,

If EC certifies that there is difficulty in holding elections in the concerned state.

Effects:

Council of Ministers headed by CM is dismissed.

Assembly is incapable of making laws.

There is not effect on the FRs of the people of the state.

Financial Emergency: Under Article 360, a proclamation is made by the President if he is satisfied that a situation has arisen where financial stability of the India or any of its territory has been threatened.

Duration: Initially for 2 months, after approval of the parliament it stays in force until it is revoked by the President.

Effects:

Union government may give directions to states regarding financial matters.

President may ask the states to reduce the salary of all persons in government service.

All money bills of the states may be asked to be reserved for the consideration of the President.

President may also direct to reduce salary and allowances of central government employees and judges of SC and HC.

Indian Judiciary

Supreme Court

1. Articles 124 to 147 mentioned in Part V of the Constitution deal with the organisation, independence, jurisdiction, powers, and procedures and so on of the Supreme Court.

2. At present, the strength of the Supreme Court's judges stands at 34 judges (including the chief justice).

3. Originally, the strength of the Supreme Court was fixed at eight (one chief justice and seven other judges).

4. Appointment- The judges of the Supreme Court are appointed by the president. The appointment of the Chief Justice is made by the president after consultation with such judges of the Supreme Court and high courts as he deems necessary. The other judges are appointed by the president after consultation with the chief justice and such other judges of the Supreme Court and the high courts as he deems necessary. The consultation with the chief justice is obligatory in the case of appointment of a judge other than Chief justice.

5. In 2015 the National Judicial Appointments Commission was declared Ultra Vires by the Supreme Court and hence the collegium system still holds the ground mentioned above.

6. **Qualification**- A person to be appointed as a judge of the Supreme Court should have the following qualifications:

(i) He should be a citizen of India.

(ii) (a) He should have been a judge of a High Court (or high courts in succession) for five years, or

(b) He should have been an advocate of a High Court (or High Courts in succession) for ten years; or

c) He should be a distinguished jurist in the opinion of the president.

8. **Oath**- The oath to the judges and CJI is administered by the President or any other person appointed by him for this purpose.

9. **Tenure of Judges** –

A. He holds office until he attains the age of 65 years.

B. He can resign his office by writing to the president.

C. He can be removed from his office by the President on the recommendation of the Parliament.

10. **Removal of Judges-** A judge of the Supreme Court can be removed from his Office by an order of the President. However, he can do so only after an address by Parliament has been presented to him in the same session for such removal. The address must be supported by a *special majority* **of each House** of Parliament - a majority of the total membership of that House and a majority of not less than two-thirds of the members of that House present and voting. The grounds of removal are —proved misbehaviour or incapacity.

11. The jurisdiction and powers of the Supreme Court can be classified into- Original Jurisdiction, Writ Jurisdiction, Appellate Jurisdiction, Advisory Jurisdiction, A court of Record and so on.

12. The Constitution has constituted the Supreme Court as the guarantor and defender of the fundamental rights of the citizens.

13. The Supreme Court is empowered to issue writs including *habeas corpus*, *mandamus*, prohibition, *quo-warranto* and *certiorari* for the enforcement of the fundamental rights of an aggrieved citizen.

High Court

1. At present, there are 24 high courts in the country. Out of them, three are common high courts. Delhi is the only union territory that has a high court of its own (since 1966). The other union territories fall under the jurisdiction of different state high courts.

2. Unlike Supreme court the number of judges in High courts is flexible and is decided by the President based on the amount of work before a high court.

3. **Appointment of Judges** The judges of a high court are appointed by the President. The chief justice of the High Court is appointed by the President after consultation with the chief justice of India and the governor of the state concerned. For appointment of other judges, the chief justice of the concerned high court is also consulted. In case of a common high court for two or more states, the governors of all the states concerned are consulted by the president.

No appointment can be made without conformity with opinion of CJI.

Under Article 222, President after consultation with CJI (who consults 4 senior most judges of SC and two chief justices of HCs where the transfer is taking place) can transfer a judge from one HC to other.

The opinion provided by the CJI is binding on the President.

3. **Qualifications of Judges** A person to be appointed as a judge of a high court should have the following qualifications:

A. He should be a citizen of India.

B. (a) He should have held a judicial office in the territory of India for ten years, or

   (b) He should have been an advocate of a high court (or high courts in succession) for   ten years.

4. **Oath or Affirmation** Oath to the judge is administered by the governor of the state or some person appointed by him for this purpose.

5. **Tenure of Judges** –

A. He holds office until he attains the age of 62 years.

B. He can resign his office by writing to the president.

C. He can be removed from his office by the President on the recommendation of the Parliament.

D. He vacates his office when he is appointed as a judge of the Supreme Court or when he is transferred to another high court.

E. The salaries and allowances of the High Court judges is charged on the consolidated fund of the state, while pensions are charged on the consolidated fund of India.

Note:

The writ jurisdiction of HC is wider than SC. Under Article 32 SC can issue writs only when fundamental right is infringed, while HC, Under Article 226 can issue writs for the enforcement of fundamental rights as well as other ordinary legal rights.

SC is bound to issue to issue writs under Article 32, while High Courts issue writs at their discretion.

The Governor

Important Articles related to Governor

Articles	Provisions
Article 153	Governors for states
Article 155	Appointment of Governor
Article 156	Term of office of Governor
Article 157	Qualifications for Appointment as Governor
Article 158	Conditions of Office
Article 159	Oath by the Governor

The Governor is the De Jure executive head at the state level. His position is analogous to that of the President at the centre.

● The Governor is appointed by the president.

● To be appointed as the Governor of any state or two or more states as a person:

(a) Should be a citizen of India.

(b) And should have attained 35 years of age.

(c) He should not hold any office of profit as well.

● Like the President, the governor is also entitled to several immunities and privileges. During his term of office, he is immune from any criminal proceedings, even in respect of his personal acts.

● **The oath** - is administered by the chief justice of the corresponding state high court and in case he's absent, the senior-most judge of that particular court.

● A governor holds office for a term of five years from the date on which he enters upon his office. He holds office until the pleasure of the President, and he offers his resignation to the President.

● He appoints the advocate general of a state and determines his remuneration. The advocate general holds office during the pleasure of the governor.

● He appoints the state election commissioner. However, the state election commissioner can be removed only in the like manner and on the like grounds as a judge of a high court.

● He appoints the chairman and members of the state public service commission. However, they can be removed only by the president and not by a governor.

● He nominates one-sixth of the members of the state legislative council.

● He can promulgate ordinances when the state legislature is not in session. The ordinances must be approved by the state legislature within six weeks from its reassembly. He can also withdraw an ordinance anytime (Article 213).

● He can grant pardons, reprieves, respites, and remissions of punishment or suspend, remit and commute the sentence of any person convicted of any offense against any law relating to a matter to which the executive power of the state extends (Article 161).

Article 371:

Some governors have to discharge certain special responsibilities under Article 371 to 371J. Such special states and respective articles are listed below:

Article	State
Article 371	Gujarat and Maharashtra
Article 371A	Nagaland
Article 371B	Assam
Article 371C	Manipur
Article 371D and 371E	Andhra Pradesh
Article 371F	Sikkim
Article 371G	Mizoram
Article 371H	Arunanchal Pradesh
Article 371I	Goa
Article 371J	Karnataka

Chief Minister and State Council of Ministers

● Chief Minister is the real executive authority (de facto executive). He is the head of the government.

● The total strength of the number of ministers, including the C.M, in the state's CoM should not exceed 15 percent of the total strength of the legislative assembly of that state. However, the number of ministers, including the C.M, in a state should also not be less than 12. This provision was added by the 91st Amendment Act of 2003.

● A member of either House of state legislature belonging to any political party who is disqualified on the ground of defection shall also be disqualified to be appointed as a minister. The provision was also added by the 91st Amendment Act of 2003.

The State Legislature

Organization of the State Legislature

● Most of the states in India have a Unicameral Legislature. Six States have Bicameral Legislature, that is- Telangana, Andhra Pradesh, Maharashtra, Bihar, U.P. and Karnataka.

● The Legislative Council (Vidhan Parishad) is the upper house (second chamber or house of elders), while the Legislative Assembly (Vidhan Sabha) is the lower house (first chamber or popular house). Delhi and Puducherry are the only two UTs that have a Legislative Assembly.

Composition of the State Legislature

● The legislative assembly consists of representatives directly elected by the people based on universal adult franchise. Its maximum strength is fixed at 500 and minimum strength at 60 depending on the population size of the state. However, in the case of Sikkim it is 32; and Goa and Mizoram it's 40.

● The members of the legislative council are indirectly elected. The maximum strength of the legislative council is fixed at 1/3rd of the total strength of the corresponding assembly and the minimum strength is fixed at 40. But an exception being Jammu and Kashmir having 36 members.

● Manner of Election Of the total number of members of a legislative council:

(a) 1/3 are elected by the members of local bodies in the state such as municipalities etc.,

(b) 1/12 are elected by graduates of three years standing and residing within the state,

(c) 1/12 are elected by teachers of three years standing in the state, not lower in standard than secondary school,

(d) 1/3 are elected by the members of the legislative assembly of the state from amongst persons who are not members of the assembly, and

(e) The remainder are nominated by the governor from amongst the persons who have special knowledge or practical experience of literature, science, art, cooperative movement, and social service.

● Thus, 5/6 of the total number of members of a legislative council is indirectly elected and 1/6 are nominated by the governor. The members are elected in accordance with the system of proportional representation by means of a single transferable vote.

Duration of the two Houses

● Analogous to the Lok Sabha, the legislative assembly is also not a permanent chamber. The term of the assembly is five years from the date of its first meeting after the general elections.

● Analogous to the Rajya Sabha, the legislative council is a continuing chamber, that is, it is a permanent body and is not subject to dissolution. But, one-third of its members retire on the expiration of every second year.

Membership of the State Legislature

The Constitution lays down the following qualifications for a person to be chosen as a member of the State legislature.

(a) Citizen of India.

(b) He must be not less than 30 years of age in the case of the legislative council and not less than 25 years of age in the case of the legislative assembly.

He should not have been found guilty as per the provisions of RPA, 1951. In defection case also a member is liable to be disqualified as per the Anti-Defection Act (10th Schedule).

Also, he should not be of unsound mind, he should not hold any office of profit; he isn't declared an un-discharged insolvent etc.

Presiding Officers of State Legislature

● Each House of the state legislature has its own presiding officer. There is a Speaker and a Deputy Speaker for the legislative assembly and Chairman and a Deputy Chairman for the legislative council. A panel of chairmen for the assembly and a panel of vice-chairmen for the council are also appointed.

● The Speaker is elected by the assembly itself from amongst its members.

● Like the Speaker, the Deputy Speaker is also elected by the assembly itself from amongst its members. He is elected after the election of the Speaker has taken place.

● The Chairman is elected by the council itself from amongst its members.

● The Speaker decides whether a bill is a Money Bill or not and his decision on this question is final.

Local Government system in India

Evolution of Panchayati Raj System

● The first Panchayati raj system in India was established by the state of Rajasthan in 1959, in Nagaur district followed by Andhra Pradesh. Thereafter the system was adopted by most of the states. The major concern regarding the local self-government was its architecture, amount of power to be devolved, finances etc. Several committees were constituted by respective union governments to devise a method for the same.

Some of the important committees are:

    Balwant Rai Mehta Committee,1957
It suggested a 3-tier structure at village, block and district level.

    Ashok Mehta Committee,1977
It suggested a 2-tier system.

    G V K Rao Committee,1985
Recommended revival of Panchayati Raj institutions and a 3-tier system.

    L M Singhvi Committee,1986
Recommended Constitutional status to Panchayati Raj institutions, also recommended setting up a finance commission for Panchayats.

    Thungon Committee,1989
Recommended Constitutional recognition to Panchayats.

    Gadgil Committee,1988

73rd Amendment Act,1992

This Act has added PART IX to the constitution and consists of provisions from Articles 243-243O. Also, it has added 11th Schedule consisting of 29 items of the Panchayat.

Important Articles added under the Act:

Article	Provisions
243A	Gram Sabha
243B	Three tier system
243D	Reservation of seats
243F	Qualification (Min. age 21 years)
243I	State Finance Commission
243K	State Election Commission

74th Amendment Act, 1992

This Amendment Act inserted a new Part IX A which deals with the administration of Municipalities and Nagar Palikas. It consist of Articles 243P to 243ZG. It also added a new 12th Schedule to the constitution.

Important Articles added under the Act:

Article	Provisions
Article 243R	Composition of Municipalities
Article 243S	Wards Committee
Article 243Q	Duration
Article 243T	Reservation of seats for SC, ST & Women
Article 243V	Qualifications (21 years)

Constitutional Bodies

ELECTION COMMISSION

Article 324 of the Constitution mentions about the election commission mentioned in part XV.

The institution of Election Commission presently consists of the chief election commissioner and two other election commissioners, appointed by the President.

They hold office for a term of six years. The age of retirement is 65 years, whichever comes earlier.

The first election commissioner of India was Sukumar Sen.

The administrative expenditure of the Election Commission is NOT charged upon the Consolidated fund of India.

Commission has advisory jurisdiction in the matters of post-election disqualification of sitting members of Parliament and State Legislatures. The opinion of the commission on all such matters is binding on the President/Governor.

Political Parties are recognised by the Election Commission. The conditions for recognition of a Party as National Party and State Party are as follows:

National Party:

2 % seats in Lok Sabha from at least 3 different states in general election.

In election to Lok Sabha or State Legislature, the party has polled 6 % of total valid votes from at least 4 different states, in addition to winning 4 Lok Sabha.

A party has recognition as a state party in at least 4 states.

State Party:

> **Secure at least 6% of the valid vote and win at least 2 seats in an assembly election.**
> **Secure 6% valid votes and at least 1 Lok Sabha seat.**
> **Win at least 3% of the seats or at least 3 seats, whichever is more, in a Assembly Election.**
> **Win at least 1 out of every 25 seats from a state in Lok Sabha General Election.**
> **Secure at least 8% of the total valid votes in Assembly or Lok Sabha Elections.**

UNION PUBLIC SERVICE COMMISSION

- Mentioned under articles 315 to 323 in Part XIV of the Constitution (Article 315 mentions about the public service commission for the union and the states).
- The UPSC consists of a chairman and other members appointed by the president of India.
- The term is of six years or the retirement age is 65 years, whichever is earlier.
- The chairman of UPSC (on ceasing to hold office) is not eligible for further employment in the Government of India or a state.

STATE PUBLIC SERVICE COMMISSION

- A State Public Service Commission consists of a chairman and other members appointed by the governor of the state.
- The term of office is 6 years or retirement age is 62 years, whichever is attained earlier. They offer their respective resignations to the governor.
- The chairman and members can be removed only by the President, though they're appointed by the Governor. The ground for removal is same as that of a chairman or a member of the UPSC.
- A JPSC is/can be created by an act of parliament on the request of the respective states, unlike UPSC and SPSC which are constitutional bodies. Hence, a JPSC is a statutory body not a constitutional one.
- The chairman and members of a JSPSC are appointed by the president. The term of office is again six years or the age of retirement is 62 years, whichever comes earlier.

FINANCE COMMISSION

- Article 280 of the Constitution of India provides for a Finance Commission. It is constituted by the president of India every fifth year or at such earlier time as he considers necessary.
- The Finance Commission consists of a chairman and four other members to be appointed by the president. They hold office for such period as specified by the president in his order. They are eligible for reappointment.
- It is majorly an advisory body though and it advises on the distribution of net proceeds of taxes to be shared between the centre and the states and the allocation between the states the respective shares of such proceeds.
- The Chairman of the first finance commission was K.C Neogi and presently it is the 15th F.C. whose chairman is N.K Singh.

NATIONAL COMMISSION FOR SCs

- Mentioned in Article 338 of the Constitution of India.

NATIONAL COMMISSION FOR STs

- Mentioned in Article 338-A of the Constitution of India.

SPECIAL OFFICER FOR LINGUISTIC MINORITIES

It is mentioned in 350-B in Part XVII of the Constitution.

COMPTROLLER and AUDITOR GENERAL of INDIA

The Constitution of India (Article 148) provides for an independent office of the Comptroller and Auditor General of India (CAG).

He is the head of the Indian Audit and Accounts Department.

He is the guardian of the public purse and controls the entire financial system of the country at both the levels—the Centre and the state.

This is the reason why Dr. B R Ambedkar said that the CAG shall be the most important Officer under the Constitution of India.

The CAG is appointed by the president of India by a warrant under his hand and seal.

He holds office for a period of six years or up to the age of 65 years, whichever is earlier.

The method to remove CAG is same as that of Supreme court judge.

He is not entitled to hold any further employment after he retires or is removed, either at the centre or at the state government level.

The administrative expenses of the office of the CAG, including all salaries, allowances, and pensions of persons serving in that office are charged upon the Consolidated Fund of India. Thus, they are not subject to the vote of Parliament.

He audits the accounts related to all expenditure from the Consolidated Fund of India, consolidated fund of each state and consolidated fund of each union territory having a Legislative Assembly.

He audits all expenditure from the Contingency Fund of India and the Public Account of India as well as the contingency fund of each state and the public account of each state.

He submits his audit reports relating to the accounts of the Centre to President, who shall, in turn, place them before both the Houses of Parliament (Article 151).

He submits his audit reports relating to the accounts of a state to the governor, who shall, in turn, place them before the state legislature (Article 151).

The President lays the reports submitted by CAG before both the Houses of Parliament. The Public Accounts Committee then scrutinizes them and reports the findings to the Parliament.

ATTORNEY GENERAL OF INDIA

Mentioned in Article 76 of the Constitution of India.

Titled as the highest law officer in the country.

Appointed by the President.

An AGI is one who is qualified to be appointed a judge of the Supreme Court.

The term is not fixed and he holds office during the pleasure of the President.

ADVOCATE GENERAL OF THE STATE

The Constitution (Article 165) has provided for the office of the advocate general for the states. He is the highest law officer in the state. Thus he corresponds to the Attorney General of India.

The advocate general is appointed by the governor. He must be a person who is qualified to be appointed a judge of a high court.

Non-Constitutional Bodies

NITI (National Institution for Transforming India) Aayog

It is established in 2015 by the government to replace the Planning commission (was based on top-down model).

It is based on the bottom-up model.

It is the policy-making body for whole India.

The Ex-officio chairman of aayog is prime minister.

Current Vice Chairman of aayog is Rajiv Kumar.

Permanent members of the governing council- (a) All state Chief Ministers (b) Chief ministers of Delhi and Puducherry (c) Lieutenant Governor of Andaman and Nicobar (d) Vice chairman nominated by the Prime Minister.

NATIONAL DEVELOPMENT COUNCIL

The National Development Council (NDC) was established in August 1952 by an executive resolution of the Government of India on the recommendation of the first five year plan (draft outline). Like the Planning Commission, it is neither a constitutional body nor a statutory body.

The NDC is composed of the following members:

P.M of India (as its chairman/head).

All Union cabinet ministers (since 1967).

Chief Ministers of all the states.

Chief Ministers/administrators of all the union territories. E. Members of the Planning Commission.

NATIONAL HUMAN RIGHTS COMMISSION

The NHRC is a statutory (and not a constitutional) body. It was established in 1993 under a legislation enacted by the Parliament, namely, the Protection of Human Rights Act, 1993. This Act was amended in 2006.

The Act was amended by Protection of Human Rights(Amendment) Bill,2019 to facilitate following provision:

Now, ex chief justice as well as ex judge of SC can be appointed as the chairperson of NHRC.

The bill allows 3 members to be appointed of which at least one has to be a woman.

Members of NHRC: The chairpersons of the National Commission for Scheduled Castes, National Commission for Scheduled Tribes, and National Commission for Women, National Commission for Backward Classes, the National Commission for the Protection of Child Rights, and the Chief Commissioner for Persons with Disabilities.

An ex chief justice of HC or an ex-judge of HC can be appointed chairperson of SHRC.

The term of office is reduced to 3 years or until the age of 70 whichever is earlier. The 5 year limit for reappointment is also removed.

Cases relating to human rights violations come under the purview of NHRC.

The chairman and members are appointed by the President on the recommendations of a six-member committee consisting of the prime minister as its head, the Speaker of the Lok Sabha, the Deputy Chairman of the Rajya Sabha, leaders of the Opposition in both the Houses of Parliament and the Central home minister. Further, a sitting judge of the Supreme Court or sitting chief justice of a high court can be appointed only after consultation with the chief justice of India.

CENTRAL INFORMATION COMMISSION

The CIC was established by the Central Government in 2005. It was constituted through an Official Gazette Notification under the provisions of the Right to Information Act (2005). Hence, it is not a constitutional body.

The Commission consists of a Chief Information Commissioner and not-more-than ten Information Commissioners.

They are appointed by the President on the recommendation of a committee consisting of the Prime Minister as Chairperson, the Leader of Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.

They should be persons of eminence in public life with wide knowledge and experience in social service, science, and technology, mass media, management, journalism, law, or administration and governance.

They should not be MPs or MLAs of any State or Union Territory. They should not hold any other office of profit or connected with any political party or carrying on any business or pursuing any profession.

By an amendment, the term of office and allowances, salaries of Information Commissioners are to be prescribed by the Central government.

CENTRAL VIGILANCE COMMISSION

The CVC is the main agency for preventing corruption in the Central government. It was established in 1964 by an executive resolution of the Central government.

Its establishment was recommended by **the Santhanam Committee on Prevention of Corruption** (1962–64).

Thus, originally the CVC was neither a constitutional body nor a statutory body. In September 2003, the Parliament enacted a law conferring statutory status on the CVC.

The CVC is a multi-member body consisting of a Central Vigilance Commissioner (chairperson) and not more than two vigilance commissioners.

They are appointed by the president by warrant under his hand and seal on the recommendation of a three-member committee consisting of the prime minister as its head, the Union minister of home affairs and the Leader of the Opposition in the Lok Sabha.

They hold office for a term of four years or until they attain the age of 65 years, whichever is earlier. After their tenure, they are not eligible for further employment under the Central or a state government.

Lokpal and Lokayukta Act

Important Facts

The Lokpal and Lokayukta is an anti-corruption ombudsman established by the Lokpal and Lokayukta Act, 2013.

It has the provision of appointing 'Lokpal' at the centre and 'Lokayukta' on every state.

These are statutory bodies established without any constitutional status.

The former Supreme Court Judge Justice Pinaki Chandra Ghose is the first Lokpal of India.

Composition of the Lokpal

The office of Lokpal consists of a chairperson and a maximum of 8 members.

The Chairman and half of the members should be from legal backgrounds.

The 50% of the seats are reserved for SC, ST, OBC, minorities or women.

Evolution of Lokpal and Lokayukta in India

For the first time, an office ombudsman was established in Sweden in 1809.

The concept of ombudsman developed significantly after the Second World War. The United Kingdom adopted it in 1967.

In India, this concept was first proposed by the then law minister Ashok Kumar Sen in the early 1960s.

In 1966 the recommendations of the First Administrative Reforms Commission suggested the setting up of independent authority for looking after the complaint against public functionaries.

In 2005 the 2nd ARC the chaired by Veerappa Moily also recommended for provision of Lokpal.

In India for the first time, the Lokpal bill was introduced in the Lok Sabha in 1968 but could be not passed, and till 2011 a total of eight failed attempts were made to pass the Bill.

Finally, massive pressure from civil societies and demand from the social groups resulted in the passing of the Lokpal and Lokayuktas Bill, 2013.

Criteria for selection of Chairperson

She/he should be either former Chief Justice of India or Judge of the Supreme Court.

She/he should be an eminent person with impeccable integrity and outstanding ability with at least 25 years experience in matters related to anti-corruption policy, law, management etc.

Appointment of Chairperson and Members

The President appoints the chairperson and members on the recommendation of a select committee consisting of the following :-

The Prime Minister

The Speaker of Lok Sabha

The Leader of Opposition in Lok Sabha

The Chief Justice of India

One eminent jurist appointed by the President

Term of Office

The Chairman and members of Lokpal hold office for five years or upto the age of 70 yrs.

The salary, allowances and other condition of service of the chairperson shall be equivalent to the Chief Justice of India, and members are comparable to the Judge of the Supreme Court.

All expenses are charged from the consolidated fund of India.

Basic Structure of Constitution

Following are the components of the Constitution:

The supremacy of the Constitution

Rule of law

The Sovereign, Democratic and Republican nature of Indian polity

The principle of Separation of Powers between the executive, legislative and judiciary

Federal Character of the Constitution

Unity and integrity of the Nation

Independence of the Judiciary

Judicial Review

Freedom and dignity of the individual

The Parliamentary system of government

The balance between Fundamental Rights and DPSP.]

The principle of equality

Secular character of the Constitution

Restriction on amending the power of Parliament.

Effective access to justice

Principle of reasonableness

Free and fair elections

The Powers of the Supreme Court under Articles 32, 136, 141, 142

The concept of Welfare State consisting of social and economic justice.

List of Most Important articles of Indian Constitution

1. Article No. 1:- Name and territory of the Union

2. Article No. 3:- Formation of new states and alteration of areas, boundaries or names of existing states

3. Article No. 13:- Laws inconsistent with or in derogation of the Fundamental Rights

4. Article No. 14:- Equality before the law

5. Article No. 16:- Equality of opportunity in matters of public employment

6. Article No. 17:- Abolition of untouchability

7. Article No. 19:- Protection of certain rights regarding freedom of speech, etc.

8. Article No. 21:- Protection of life and personal liberty

9. Article No. 21A:- Right to elementary education

10. Article No. 25:- Freedom of conscience and free profession, practice and propagation of religion 11. Article No. 30:- Right of minorities to establish and administer educational institutions

12. Article No. 31C:- Saving of laws giving effect to certain Directive Principles

13. Article No. 32:- Remedies for enforcement of Fundamental Rights including writs

14. Article No. 38:- State to secure a social order for the promotion of the welfare of the people

15. Article No.40:- Organisation of village panchayats

16. Article No. 44:- Uniform Civil Code for the citizens

17. Article No. 45:- Provision for early childhood care and education to children below the age of 6 years.

18. Article No. 46:- Promotion of educational and economic interests of scheduled castes, scheduled tribes and other weaker sections

19. Article No. 50:- Separation of judiciary from the executive

20. Article No. 51:- Promotion of international peace and security

21. Article No. 51A:- Fundamental Duties

22. Article No. 72:- Powers of President to grant pardons, suspend, remit or commute sentences in certain cases

23. Article No. 74:- Council of Ministers to aid and advise the President

24. Article No. 76:- Attorney-General of India

25. Article No. 78:- Duties of the Prime Minister as respects the furnishing of information to the President, etc.

26. Article No. 110:- Definition of Money Bills

27. Article No. 112:- Annual Financial Statement (Budget) 28. Article No. 123:- Power of President to promulgate ordinances during recess of Parliament

29. Article No. 143:- Power of President to consult Supreme Court

30. Article No. 148:- Comptroller and Auditor-General of India

31. Article No. 149:- Duties and powers of the Comptroller and Auditor-General of India

32. Article No. 155:- Appointment of the Governor

33. Article No. 161:- Power of Governor to grant pardons, etc., and to suspend, remit or commute sentences in certain cases

34. Article No. 163:- Council of Ministers to aid and advise the Governor

35. Article No. 165:-Advocate-General of the state

Which British Laws are still used in India

36. Article No. 167:- Duties of Chief Minister with regard to the furnishing of information to the Governor, etc.

37. Article No. 168:- Constitution of Legislatures in the states

38. Article No. 169:- Abolition or creation of Legislative Councils in the states

39. Article No. 170:- Composition of Legislative Assemblies in the states

40. Article No. 171:- Composition of Legislative Councils in the states

41. Article No. 172:- Duration of State Legislatures

42. Article No. 173:- Qualification for membership of the State Legislature

43. Article No. 174:- Sessions of the State Legislature, prorogation and dissolution

44. Article No. 178:- Speakers and Deputy Speaker of the Legislative Assembly 45. Article No. 194:- Powers, privileges, and immunity of Advocate-General

46. Article No. 200:- Assent to bills by the governor (including reservation for President)

47. Article No. 202:-Annual financial statement of the State Legislature

48. Article No. 210:- Language to be used in the State Legislature

49. Article No. 212:- Courts not to inquire into proceedings of the State Legislature

50. Article No. 213:- Power of governor to promulgate ordinances during recess of the State Legislature

51. Article No. 214:- High courts for the states

52. Article No. 217:-Appointment and the conditions of the office of the judge of a High Court

53. Article No. 226:- Power of high courts to issue certain writs

54. Article No. 239AA:- Special provisions with respect to Delhi

55. Article No. 243B:- Constitution of Panchayats

56. Article No. 243C:- Composition of Panchayats

57. Article No. 243G:- Powers, authority and responsibilities of Panchayats

58. Article No. 243K:- Elections to the Panchayats

59. Article No. 249:-Power of Parliament to legislate with respect to a matter in the State List in the national interest

60. Article No. 262:- Adjudication of disputes relating to waters of inter-state rivers or river valleys

61. Article No. 263:- Provisions with respect to an inter-state council

62. Article No. 265:- Taxes not to be imposed save by authority of law 63. Article No. 275:- Grants from the Union to certain states

64. Article No. 280:- Finance Commission

65. Article No. 300:- Suits and proceedings

66. Article No. 300A:- Persons not to be deprived of property save by authority of law (Right to property)

67. Article No. 311:- Dismissal, removal or reduction in rank of persons employed in civil capacities under the Union or a state.

68. Article No. 312:- All-India Services

69. Article No. 315:- Public Service Commission for the Union and for the states

70. Article No. 320:- Functions of Public Service Commissions

71. Article No. 323-A:- Administrative Tribunals

72. Article No. 324:- Superintendence, direction and control of elections to be vested in an Election Commission

73. Article No. 330:- Reservation of seats for scheduled castes and scheduled tribes in the House of the People

74. Article No. 335:- Claims of Scheduled Castes and Scheduled Tribes to services and posts

75. Article No. 352:- Proclamation of Emergency (National Emergency)

76. Article No. 356:- Provisions in case of failure of constitutional machinery in states (President's Rule)

77. Article No. 360:- Provisions as to Financial Emergency.

78. Article No. 365:- Effect of failure to comply with or to give effect to, directions given by the Union (President's Rule)

79. Article No. 368:- Power of Parliament to amend the Constitution and procedure therefore.

GEOGRAPHY

India and the Administrative Units; the States and Union Territories
a. Physiography of India

India lies in the northern hemisphere of the globe between 8º 4' N and 37º6' N latitudes and 68º7' E and 97º25' E longitudes.

The southern extent goes up to 6º45' N latitude to cover the last island of the Nicobar group of islands. The southern extreme is called Pygmalion Point or India Point.

The Tropic of Cancer passes through the middle part of India and crosses the eight states of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura and Mizoram.

The total land frontier of 15,200 km passes through marshy lands, desert, plains, mountains, snow-covered areas and thick forests.

The maritime boundary of 6100 km along the main landmass which increases to 7516 km of the coastlines of Andaman-Nicobar and Lakshadweep Islands are added to it.

India commands a total geographical area of 32,87,263 sq.km which is roughly 0.57% of the area of the earth and 2.4% of the total area of the land hemisphere.

India is the seventh-largest country of the world after Russia, Canada, USA, China, Brazil and Australia (all are mentioned in the descending order).

India's area is almost equal to the area of Europe (excluding Russia), one-third of Canada, one-fifth of Russia, eight times of Japan and twelve times of the United Kingdom.

India has roughly a quadrangular shape. It measures about 3,214 km from north to south and about 2933 km from east to west, the difference between the two is just 281km.

b. Land frontiers of India

The Himalayan ranges from a natural frontier between India and China. In the north-west, Jammu and Kashmir share the international border with Sinkiang and Tibet in China.

In the east, Himachal Pradesh and the mountain region of Uttarakhand have a common frontier with Tibet.

Nepal has its border with Uttar Pradesh and Bihar.

West Bengal and Sikkim also touch the Nepalese border for a small distance.

India-Afghanistan and Pakistan-Afghanistan international boundary are called the Durand Line, determined as a 'military-strategic border' between British India and Afghanistan.

The boundary between with Pakistan and Bangladesh (East Pakistan) was finalized at the time of partition in 1947 through the 'Radcliff Award'.

In Punjab, the frontier runs through a smooth and fertile plain, which is purely man-made. The Indian frontier with Pakistan in Kashmir is still disputed and has led to strained relations between the two countries since partition in 1947.

The eastern boundary of India is formed by a complex chain of the Himalayan offshoots consisting of the Mishmi, the Patkai, the Naga hills, the Barail range, the Mizo hills and finally the Arakan Yoma mountain range.

The Arakan Yoma is submerged in the Bay of Bengal for a sufficiently long stretch and emerges again in the form of Andaman and Nicobar Islands.

The boundary line between India and Bangladesh crisscrosses the vast Ganga-Brahmaputra delta. This boundary runs through an entirely flat country in which there is not even a small mount or hill which could be used for demarcating the boundary between two countries.

Bangladesh and India share a the fifth-longest land border in the world, including Assam, Tripura, Mizoram, Meghalaya, and West Bengal.

There is a maritime boundary of 6100 km along with the main landmass which increases to 7156 km if the coastlines of Andaman and Nicobar Islands are added to it.

The nearest neighbour in the south across the seas in Sri Lanka which is separated from India through the narrow channel of Palk Strait.

Similarly, the Eight Degree Channel forms the boundary between the Lakshadweep and Maldives islands.

Name of the Country	Length in Km
Bangladesh	4,096.7
China	3,488
Pakistan	3,323
Nepal	1,751
Myanmar	1,643

Bhutan	699
Afghanistan	106
Total	15,106.7

The states having a common boundary with the neighboring countries.

Country	States
Pakistan	3 States: Punjab, Rajasthan, Gujarat and 2 Union Territories- Jammu & Kashmir and Ladakh
Afghanistan	1 Union Territory- Ladakh
China	4 States: Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh and 1 Union Territory- Ladakh
Nepal	5 States: Uttarakhand, Uttar Pradesh, Bihar, West Bengal, Sikkim
Bhutan	4 States: Sikkim, West Bengal, Assam, Arunachal Pradesh
Myanmar	4 States: Arunachal Pradesh, Nagaland, Manipur, Mizoram
Bangladesh	5 States: West Bengal, Meghalaya, Assam, Tripura and Mizoram

Quick Glance at States Area-wise:

State	Area (Km^2)	Capital	Main Language
Rajasthan	342,239	Jaipur	Rajasthani, Hindi

Madhya Pradesh	308,245	Bhopal	Hindi
Maharashtra	307,713	Mumbai	Marathi
Uttar Pradesh	240,928	Lucknow	Hindi
Gujarat	196,024	Gandhinagar	Gujarati
Karnataka	191,791	Bengaluru	Kannada
Andhra Pradesh	162,968	Hyderabad	Telugu
Odisha	155,707	Bhuvaneswar	Oriyya
Chhattisgarh	135,191	Raipur	Hindi
Tamil Nadu	130,058	Chennai	Tamil
Telangana	112,077	Hyderabad	Telugu
Bihar	94,163	Patna	Hindi
West Bengal	88,752	Kolkata	Bengali
Arunachal Pradesh	83,743	Itanagar	Tribal
Jharkhand	79,714	Ranchi	Hindi
Assam	78,438	Dispur	Assamese
Himachal Pradesh	55,673	Shimla	Hindi
Uttarakhand	53,483	Dehradun	Hindi

Punjab	50,362	Chandigarh	Punjabi
Haryana	44,212	Chandigarh	Hindi
Kerala	38,863	Thiruvananthapuram	Malayalam
Meghalaya	22,429	Shillong	Khasi, Garo, English
Manipur	22,327	Imphal	Manipuri
Mizoram	21,081	Aizawl	Mizo, English
Nagaland	16,579	Kohima	Angami Ao
Tripura	10,486	Bengali, Tripuri	Agartala
Sikkim	7,096	Gangtok	Lepcha, Bhutia
Goa	3,702	Panaji	Marathi, Konkani
Union Territories	Area (sq. km)	Capital	Language
Andaman and Nicobar Is.	8,249	Port Blair	Andamanese, Nicobarese
Delhi	1,490	New Delhi	Hindi
Puducherry	492	Puducherry	Tamil, French
Dadra and Nagar Haveli and Daman and Diu	603	Daman	Gujarati, Marathi

Chandigarh	114	Chandigarh is itself the capital of two states i.e. Punjab and Haryana.	Hindi, Punjabi, and Haryanvi
Lakshadweep	32	Kavaratti	Malayalam
Jammu Kashmir	-	Srinagar (Summer capital) Jammu (winter capital)	Kashmiri, Urdu
Ladakh	-	Leh, Kargil	Urdu, Hindi, English

Physical Geography of India

India has vast diversity in physical features.

This diversity of landmass is the result of the large landmass of India formed during different geological periods and also due to various geological and geomorphological processes that took place in the crust.

According to Plate Tectonic theory folding, faulting and volcanic activity are the major processes involved in the creation of physical features of Indian landscape. For example, the formation of the Himalayas in the north of the country attributed to the convergence of Gondwana land with the Eurasian plate.

The Northern part of the country has a vast expanse of rugged topography consisting of a series of mountain ranges with varied peaks, beautiful valleys and deep gorges.

The Southern part of the country consists of stable table land with highly dissected plateaus, denuded rocks and developed series of scarps.

The Great Northern Plains lies between these two landscapes.

The physical features of India can be grouped under the following Physiographic Divisions:

The Himalayas

The Northern Plains

The Peninsular Plateau

The Indian desert

The Coastal Plains

The Islands

The Himalayas

The longest range of this system is Pir Panjal Range.

This range consists of famous valley of Kashmir, the Kangra and the Kullu Valley.

The Outer most range of the Himalayas is called the Shiwaliks. They composed of unconsolidated sediments brought down by rivers from the main Himalayan range located farther north.

The Longitudinal valley lying between lesser Himalayas and Shiwaliks are known as Duns. Example: Dehra Dun, Kotli Dun, Patli Dun.

The highest peak of Himalayas is: Everest, Nepal (8848 m); Kanchenjunga, India (8598 m); Makalu, Nepal (8481 m)

On the basis of relief, alignment of ranges and other geomorphological features the Himalayas can be subdivided into following

North-western or Kashmir Himalayas

Himachal and Uttarakhand Himalayas

Darjeeling and Sikkim Himalayas

Arunachal Himalayas

Eastern Hills and Mountains

North-Western or Kashmir Himalayas

Important Ranges: Karakoram, Ladakh, Zaskar and Pir Panjal

Important Glaciers: Siachen, Baltoro, Remo, etc.,

Important Pass: Zoji la, Bara Lacha la, Banihal, rohtang, etc.,

Important Peaks: Nanga Parbat, K2, etc.,

Kashmir valley: lies between Greater Himalayas and Pir Panjal Range.

Cold Desert: between Greater Himalayas and Karakoram Range.

Important Lakes: Dal and Wular are freshwater lakes, whereas Pangong Tso and Tso Moriri are saltwater lakes.

The Southernmost part of this region consists of longitudinal valleys known as Duns. Eg: Jammu dun, Pathankot dun, etc.,

Himachal and Uttarakhand Himalayas

Important Ranges: Great Himalayas, Dhaoladhar, Shiwaliks, Nagtibha, etc.,

Important River System: Indus and Ganga

Important Hill Stations: Dharamshala, Mussoorie, Shimla, kausani, etc.,

Important Pass: Shipki la, Lipu Lekh, Mana pass, etc.,

Important Glaciers: Gangotri, Yamunotri, Pindari, etc.,

Important Peaks: Nanda Devi, Dhaulagiri, etc.,

Important Duns: Dehradun (largest), Harike Dun, Kota Dun, Nalagarh Dun, Chandigarh-Kalka Dun, etc.,

This region is known for five Prayags (River Confluences). Valley of flowers is also situated in this region.

The Darjeeling and Sikkim Himalayas

This lies between Nepal Himalayas in the west and Bhutan Himalayas in the east.

It is the region of fast flowing rivers and high mountain peaks.

Important Peaks: Kanchenjunga

Duar formations replace the Shiwaliks (absent) in this region which enhanced the development of Tea gardens.

Important Glaciers: Zemu Glacier

Important Peaks: Nathu La and Jelep La

The Arunachal Himalayas

This lies between Bhutan Himalayas and Diphu Pass in the east

Important Peaks: Namcha Barwa and Kangto

Important Rivers: Subansiri, Dihang, Dibang and Lohit

Important Ranges: Mishmi, Abor, Dafla, Mihir, etc.,

Important pass: Diphu pass

The Eastern Hills and Mountains

These are the part of Himalayan Mountain system having their general alignment from the north to south direction.

The Himalaya in the eastern boundary of the country is called Purvanchal. These are mainly composed of sandstones (sedimentary rocks).

Important Hills: Patkai Bum, Naga Hills, Manipur Hills, Mizo hills, etc.

THE NORTHERN PLAINS

The northern plain has been formed by the interplay of the three major river systems – the Indus, the Ganga and the Brahmaputra.

Bhabar is a narrow belt ranging between 8-10 km parallel to the Shiwalik foothills at the break-up of the slope. The river after descending from the mountains deposit pebbles in a narrow belt. All the streams disappear in this belt.

Bhangar is the region south of Terai region. This region is formed by older alluvium. The soil in this region contains calcareous deposits locally known as kankar.

The region with new alluvium deposits is known as **Khadar**. They are renewed almost every year and are so fertile, thus ideal for intensive cultivation.

Riverine Islands – these are the islands which are formed due to depositional work of rivers especially in the lower course due to the gentle slope and resultant decrease in the velocity of rivers. **Majuli** – in the Brahmaputra is the largest inhabited riverine island in the world

Distributaries – the rivers in the lower course split into numerous channels sue to deposition of silt are called distributaries.

Doab – the area which lies behind the confluence of two rivers.

Major Mountain Peaks in India	Description
Godwin Austen (K2)	Highest peak of Karakoram range in POK
Nanga Parbat	Jammu and Kashmir
Nanda Devi	Uttarakhand, Second highest mountain in India and the highest entirely within the country
Kanchenjunga	Nepal and Sikkim (B/w Teesta river in east & Tamur river in the west), the Highest mountain in India & 3rd highest mountain in the world
Nokrek	Highest point of the Garo Hills (Meghalaya)

Gurushikhar	Mt. Abu, Rajasthan, highest point of the Aravalli Range
Kundremukh	Karnataka
Doddabetta	Highest point in Tamil Nadu, near Udhagamandalam (Nilgiri Hills) Second highest peak in the Western Ghats only next to Anamudi
Anaimudi	Located in Kerala, It is the highest peak in the Western Ghats and in South India
Agasthyamalai	Lie at the extreme southern end of Western Ghats, straddle both sides in Kerala and in Tamil Nadu
Saddle Peak	Highest point of the archipelago in the Bay of Bengal, located in North Andaman
Mount Hariet	Third highest peak in the Andaman and Nicobar archipelago only next to, Saddle peak (Highest of Andaman) and Mount Thullier (Highest of Nicobar)
Mahendragiri	Orissa, the Highest peak of Eastern Ghats (According to NCERT)
Arma Konda	Andhra Pradesh

Important Passes in India

State	Pass name	Comment
Jammu and Kashmir	Banihal Pass	Jammu to Srinagar
Jammu and Kashmir	Chang-La	Ladakh with Tibet
Jammu and Kashmir	Pir-Panjal pass	Between Jammu and Kashmir Valley

Jammu and Kashmir	Zoji La	important road link between Srinagar on one side and Kargil and Leh on the other side
Himachal Pradesh	Bara Lacha La	Connecting Mandi in Himachal Pradesh with Leh in Jammu and Kashmir
Himachal Pradesh	Rohtang Pass	road link between Kullu, Lahaul and Spiti Valleys
Himachal Pradesh	Shipki La	Himachal Pradesh and Tibet
Uttarakhand	Lipu Lekh	trijunction of Uttarakhand (India), Tibet (China) and Nepal borders
Uttarakhand	Niti Pass	Uttarakhand with Tibet
Sikkim	Nathu La	Sikkim with Tibet
Sikkim	Jelep La	Sikkim-Bhutan border
Arunachal Pradesh	Bom Di La	Arunachal Pradesh with Bhutan
Arunachal Pradesh	Dihang Pass	Arunachal Pradesh and Myanmar.

The Peninsular Plateau

It is an irregular triangle in structure extends as Delhi ridge in the north-west, Rajmahal hills in the east, Gir range in the west and Cardamom Hills in the south.

The important physiographic features of this are - block mountains, rift valleys, spurs, bare rocky structures, series of hummocky hills and wall like quartzite dykes offering natural sites for water storage.

On the basis of relief features, the peninsular plateau is divided into three broad groups –

The Deccan Plateau

The Central Highlands

The North-eastern Plateau

The Deccan Plateau

The Deccan Plateau is a triangular landmass that lies to the south of R. Narmada.

It is bordered by the Western Ghats in the west, the Eastern Ghats in the east and the Satpura, Maikal and Mahadeo range in the north and north-eastern part.

An extension of the peninsular plateau is also visible in the north-east known as Karbi-Anglong Plateau and North Cachar Hills.

The Deccan Plateau is higher in the west and slopes gently eastwards.

Western and Eastern Ghats are prominent features of the Deccan plateau, the comparison between these two ranges are mentioned in the following table

S. NO.	WESTERN GHATS	EASTERN GHATS
1.	They are continuous and can be crossed only through passes.	They are discontinuous and irregular
2.	Average Elevation – (900 – 1600)m	Average Elevation – 600 m
3.	The altitude increases from north to south	The altitude has no general pattern
4.	Important Hills – Nilgiri, Anaimalai, Cardamom, Babubudan, etc.,	Important Hills – Javadi, Palkonda, Nallamala, Mahendragiri, etc.,
5.	Important Peaks – Anaimudi (highest), Doda Betta (Ooty), Kodaikanal etc.	Important Peaks – Mahendragiri (highest) etc.
6.	Most of the peninsular rivers originate here and acts as a water divide between west-flowing and east-flowing rivers.	They are dissected by major rivers like Mahanadi, Godavari, Krishna, Cauvery, etc., which are draining into the Bay of Bengal

The Central Highlands

The Central Highlands is a part of Peninsular Plateau lying north of R. Narmada covering a major area of Malwa plateau, Vindhyan Range covers the southern extent and Aravalis in the north-west.

The plateaus like Bundelkhand, Bagelkhand, Chotanagpur makes the eastern extension of the central highlands.

This region has undergone metamorphic processes in its geologic history, which can be corroborated by the presence of metamorphic rocks such as marble, slate, gneiss, etc.

The North-Eastern Plateau

This region consists of many plateaus like Meghalaya Plateau, Karbi Anglong Plateau, etc.,

Important Hills – Khasi, Garo, Jaintia, etc.,

The Indian Desert

The Great Indian Desert lies in the north-western region of the country.

The prominent desert features are – Mushroom Rocks, Shifting Dunes and Oasis.

It is a land of undulating topography dotted with longitudinal dunes and Barchans.

Most of the rivers in this region are ephemeral. Example: R. Luni

Low precipitation and evaporation make it a water deficit region.

The desert can be divided into two regions: Northern part sloping towards Sindh and the Southern part towards the Rann of Kachchh.

The Coastal Plains

The Peninsular plateau is covered by marine water in 3 sides: the Indian Ocean in the South; the Bay of Bengal in the east and the Arabian Sea in the West.

The extent of coastline in the country is 6100 km in the mainland and 7517 km in the entire geographical coast of the country (including Islands).

On the basis of the location and active geomorphological processes, it can be broadly divided into two: the Western Coastal Plains and the Eastern Coastal Plains.

The Islands

Besides the vast physical features in the mainland of the country, there are two major island groups located in both sides of the peninsular plateau.

The island groups provide the site for Fishing and Port activities.

Though more than 4000 islands present in Indian territory Andaman and Nicobar and Lakshadweep are the two major island groups.

ANDAMAN & NICOBAR ISLANDS

Duncan passage lies between south Andaman and Little Andaman.

Important Peaks: Saddle Peak, North Andaman (738 m); Mount Diavolo, middle Andaman (515 m); Mount Koyob, South Andaman (460 m); Mount Thuiller, Great Nicobar (642 m).

Note

    Ten Degree Channel- Between Little Andaman and Car Nicobar

    Duncan Passage- Between great Andaman and Little Andaman

THE LAKSHADWEEP ISLANDS

    Kavaratti Island is the administrative headquarters of Lakshadweep islands.

    Minicoy is the largest island in this group.

    This island group consists of storm beaches consisting of unconsolidated pebbles, shingles, cobbles and boulders.

Note

    Nine Degree Channel- Minicoy is separated from rest of the Lakshadweep

    Eight Degree Channel- Lakshadweep Group separated from the Maldives

Other Islands

    Newmoore Island- located in the Bay of Bengal on the mouth of Ganga.

    Pamban Island- located in the Gulf of Manner between Sri Lanka and India.

INDIAN DRAINAGE SYSTEM
Comparison between Himalayan and the Peninsular Rivers of India

S. No.	Aspect	Himalayan River	Peninsular River
1.	Place of origin	Himalayan mountain covered with glaciers	Peninsular plateau and central highland
2.	Nature of flow	Perennial; receive water from the glacier and rainfall	Seasonal; dependent on monsoon rainfall
3.	Type of drainage	Antecedent and consequent leading to the dendritic pattern in plains	Superimposed, rejuvenated resulting in trellis, radial and rectangular patterns

4.	Nature of river	Long course, flowing through the rugged mountains experiencing headward erosion and river capturing; In plains meandering and shifting of course	Smaller, the fixed course with well-adjusted valleys
5.	Catchment area	Very large basins	Relatively smaller basin
6.	Age of the river	Young and youthful, active and deepening in the valleys	Old rivers with the graded profile, and have almost reached their base levels

Important Rivers of India

Himalayan rivers come from the Himalayas and flow through the Northern Plains.

The major rivers in the Himalayan System are:

The Indus River System
The Ganga River System
The Yamuna River System
The Brahmaputra River System

The main source of Peninsular River System or Peninsular Drainage is the Western Ghats. Because the Western Ghats are forming a ' water divide, ' these rivers either flow eastward into Bengal Bay or westward into the Arab Sea. Peninsular rivers are rivers that are essentially rain-fed.

The major rivers in the Peninsular system are:

Mahanadi
Godavari
Krishna
Cauvery

Drain into the Bay of Bengal as they flow on the plateau eastward and create' delta' at their mouths; while the Narmada Tapti-the west-flowing rivers fall into the Arab Sea and create' estuaries.'

Not from glaciers, but from rain-fed rivers. During summer, these rivers significantly decrease or dry up.

THE HIMALAYAN RIVERS

Indus River System

In the early Hindu mythological texts, the mention of Indus River or Sindhu River is witnessed. The river comes from Tibet near Lake Mansarovar. In Jammu and Kashmir, it flows westward into India, flows further through Himachal Pradesh, Punjab, and reaches Pakistan.

It enters the Arab Sea near Karachi, flowing further west. Indus is Pakistan's biggest river and the national river of the country. Its Indian tributaries are Zanskar, Nubra, Shyok, and Pakistan's Hunza. Sutlej, Ravi, Beas, Chenab and Jhelum are their other tributaries named after the state of Punjab.

Ganga River System

The Ganga river system (Ganges) is India's largest river system. It originates in the glaciers of Gangotri. The upstream Bhagirathi joins the other stream at Devprayag called Alaknanda to form the Ganga River. Ganga has tributaries on both banks; the Yamuna and Son are its right-bank tributaries.

Some of the left bank tributaries are Gomti, Ghaghara, Gandak, Kosi. The Ganges flows through the Uttarakhand, Uttar Pradesh, Bihar, and West Bengal Indian countries. It lastly reaches the Bay of Bengal.

Yamuna River System

The Yamuna is Northern India's main river system. The river flows through Uttrakhand, Uttar Pradesh and Haryana from Yamnotri. It crosses Delhi, Mathura, Agra and meets the Chambal, Betwa and Ken rivers to lastly join the Allahabad Ganga. Tons, Chambal, Hindon, Betwa and Ken are Yamuna's major tributaries.

Brahmaputra River System

The Brahmaputra, one of India's main rivers, originates in Tibet's Himalayan Angsi glacier. It's called the Tsangpo River there. In Arunachal Pradesh, it enters India and is known as Dihang River.

Dibang, the Lohit, the Kenula are tributaries which form the primary Brahmaputra River and flow through Assam, its longest course, enter Bangladesh and lastly falls into the Bay of Bengal. The Brahmaputra has the largest water quantity of all India's rivers.
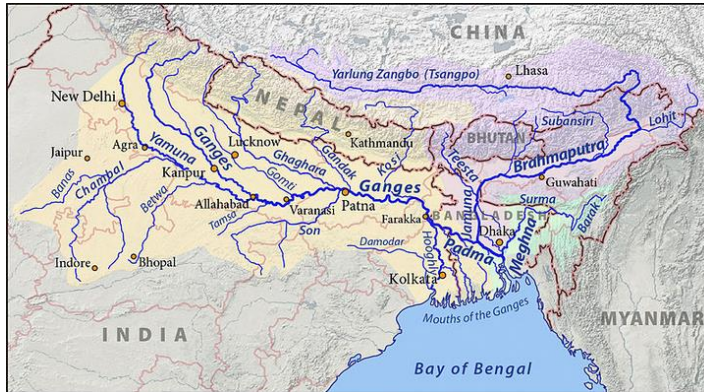
THE PENINSULAR RIVERS

Mahanadi

The Mahanadi in East-central India is a significant river. It originates in Chhattisgarh's Sihava hills and flows through the state of Orissa (Odisha) through its main course. This river deposits more silt on the Indian subcontinent than any other river. Mahanadi runs through Sambalpur, Cuttack and Banki cities.

Godavari

The Godavari River, after the Ganga, covers India's second-longest course. The river originates from Triambakeshwar in Maharashtra and flows along with its tributaries (Pravara, Indravati, Maner Sabri etc.) through the countries of Maharashtra, Chhattisgarh, Madhya Pradesh, Orissa (Odisha), Telangana, Andhra Pradesh, Karnataka and Puducherry to lastly flow into the Bay of Bengal. The river is defined as Dakshina Ganga because of its lengthy course.

Krishna River

The Krishna is India's third-longest river, about 1300 km long. It originates from the Mahabaleshwar region of Maharashtra and flows through Karnataka, Telangana, and Andhra Pradesh to lastly pour into Bengal Bay.

Kaveri River

The Kaveri (Cauvery) is a significant river in southern India and originates in Kogadu, Karnataka.

As many tributaries like Hemavati, Moyari, Shimsha, Arkavati, Honnuhole, Kabini, Bhavani, Noyill and Amaravati join it, Kaveri River expands.

Narmada and Tapti

The Narmada & Tapti river is the only major flowing rivers into the Arab Sea. Narmada's complete length flowing through Madhya Pradesh, Maharashtra, and Gujarat countries is equal to 1312 km. Amarkantak is Narmada's location of origin in Shahdol, Madhya Pradesh. From east to west, Narmada flows primarily through Central India and flows into the Arabian Sea.

The Tapti river follows a parallel course to the south of Narmada, flowing through the Maharashtra and Gujarat states on their way into the Gulf of Khambat. Purna, Girna and Panjhra are its three main tributaries.

Like most ancient religions, rivers are considered sacred by the Hindu faith and its mythology. The Ganges, Yamuna (a Ganges tributary), Brahmaputra, Mahanadi, Narmada, Godavari, Tapi, Krishna, and Kaveri are nine major Indian rivers. Indian soil also flows through parts of the Indus River.

The Indian river system comprises eight important rivers together with their various tributaries. Most rivers discharge their waters into the Bay of Bengal; nevertheless, there are a number of rivers whose itineraries take them across the west end of India and into the Arab Sea in the east direction.

Northern parts of the Aravalli range, Ladakh parts, and the barren Thar Desert regions have Inland Drainage.

River Systems of India

Name	Length of River	Originates From	Area Covered	Ends in
Indus	3180/ 1114 in India	Tibet in northern slopes of Mount Kailash	India and Pakistan	Arabian sea
Ganga (Bhagirathi)	2525	Gangotri in Uttrakhand	Uttar Pradesh, Uttrakhand, Bihar, West Bengal	Bay of Bengal
Yamuna (Jamuna)	1376	Yamunotri in Garhwal	Delhi, Haryana and UP	Bay of Bengal
Brahmaputra	916 - in India	Angsi Glacier	Assam, Arunachal Pradesh	Bay of Bengal
Kaveri	765	Brahmagiri hills in Kogadu, Karnataka	Karnataka and Tamil Nadu	Bay of Bengal
Godavari (Dakshin Bharat ki Ganga)	1465	Triambakeshwar in Maharashtra	South-eastern part of Andhra Pradesh	Bay of Bengal
Krishna	1400	Mahabaleshwar in Maharashtra	Maharashtra & Andhra Pradesh	Bay of Bengal
Narmada	1312	Amarkantak in Madhya Pradesh	Madhya Pradesh and Maharashtra	Arabian Sea
Tapti	724	Betul, Madhya Pradesh district in the Satpura region	Madhya Pradesh and Maharashtra	Arabian Sea

Mahanadi	858	Sihava mountains of Chhattisgarh	Jharkhand, Chhattisgarh, Orissa	Bay of Bengal
Vaigai	258	Varusanadu Hills	Madurai in Tamil Nadu	Bay of Bengal
Periyar	244	Sivagiri peaks of Sundaramala, Tamil Nadu.	Tamil Nadu and Kerala	Bay of Bengal

Important dams in India

Some Facts about dams

Tallest dam in the world- Nurek dam (Tajikistan)

Longest dam in the world- Hirakund dam (Orissa)

Longest dam in India- Hirakund dam (Orissa)

Highest dam in India- Tehri dam (Uttarakhand)

Highest straight gravity Dam in India- Bhakra dam

First dam of India-Kallanai Dam (Grand Anicut) on river Kaveri (Tiruchirapalli, Tamilnadu)

Important Dams in India

State	Dam	River
Andhra Pradesh	Nagarjuna Sagar Dam	Krishna
	Srisailam Dam	Krishna
	Polavaram Project	Godavari
Arunachal Pradesh	Ranganadi Dam	Ranganadi River, a tributary of the Brahmaputra River
Chhattisgarh	Minimata (Hasdeo) Bango Dam	Hasdeo
	Dudhawa Dam	Mahanadi
Gujarat	Ukai Dam	Tapti
	Sardar Sarovar Dam	Narmada

Himachal Pradesh	Pong Dam	Beas
	Bhakra Dam	Satluj
Jammu and Kashmir	Baglihar Dam	Chenab
	Uri Dam	Jhelum
	Kishenganga Dam	KISHANGANGA
Jharkhand	Panchet Dam	Damodar
	North Koel	North Koel
Karnataka	Krishnarajasagar Dam	Cauvery
	Tungabhadra Dam	Tungabhadra
Kerala	Cheruthoni Dam	Cheruthoni
	Idukki Dam	Periyar
Madhya Pradesh	Ban Sagar Dam	Son
	Gandhi Sagar Dam	Chambal
	Indira Sagar Dam	Narmada
	Omkareshwar Dam	Narmada
Maharashtra	Bhatsa Dam	Bhatsa and chorna
	Koyna Dam	Koyna

Odisha	Hirakud Dam	Mahanadi
	Indravati Dam	Indravati
Punjab	Ranjit Sagar Dam	Ravi
Rajasthan	Jawahar Sagar Dam	Chambal
	Rana Pratap Sagar Dam	Chambal
Tamil nadu	Mettur Dam	Kaveri
Telangana	Nagarjuna Sagar Dam	Krishna (Some Part of Dam also in Telangana)
	Srisailam Dam	Krishna (Some Part of Dam also in Telangana)
Uttarakhand	Tehri Dam	Bhagirathi
	Ramganga Dam	Ramganga
Uttar Pradesh	Rihand Dam	Rihand

Important Lakes in India (State Wise)

Largest freshwater lake in India – Wular Lake, Jammu and Kashmir

Largest Saline water lake in India – Chilka Lake, Orissa

Highest lake in India (Altitude) – Cholamu lake, Sikkim

Longest Lake in India – Vembanad lake, Kerala

Largest Artificial Lake in India – Govind Vallabh Pant Sagar (Rihand Dam)

Lakes in India

S.No.	Name	State	District	Type of Lakes	Facts/Description
1	Pulicat Lake	Andhra Pradesh	Nellore	Brackish Water	It encompasses Pulicat Lake Bird Sanctuary; Satish Dhawan Space Centre located here
2	Kolleru Lake	Andhra Pradesh	West Godavari	Freshwater	Home to migratory birds
3	Nagarjuna Sagar	Telangana	Nalgonda	Freshwater	Artificially constructed; Krishna river
4	MaharanaPratap Sagar	Himachal Pradesh	Kangra	Freshwater	Ramsar site
5	Pangong Tso	J &K	Ladakh	Endorheic Lake (saline water)	Indo-China Border
6	Wular lake	J &K	Bandipora	Tectonic lake (fresh water)	Largest freshwater lake in India
7	TsoMoriri	J &K	Ladakh	Saltwater	High altitude lake

8	Ashtamudi Kayal	Kerala	Kollam	Brackish water	Ramsar wetland site
9	Lonar lake	Maharashtra	Buldhana	Crater lake	National Geo-Heritage monument
10	Loktak lake	Manipur	-	Lenticular freshwater	Ramsar wetland; Phumdis (Floating Islands); Multipurpose project
11	Chilika lake	Orissa	Puri	Brackish water	India's largest brackish water lake; lagoon
12	Sambhar lake	Rajasthan	Sambhar Lake-town	Saltwater	Ramsar wetland; largest inland saltwater lake in India
13	Hussain Sagar	Telangana	Hyderabad	Artificial lake	Artificial Gibraltar rock island
14	Govind Ballabh Pant Sagar	Uttar Pradesh	Sonbhadra	Man-made lake	Rihand dam

Soil and Agriculture in India

Soil Profile and Horizon of soil

O - Horizon containing a high percentage of soil organic matter.

A - Horizon darkened by the accumulation of organic matter.

E - Horizon formed through the removal (eluviation) of clays, organic matter, iron, or aluminium. Usually lightened in colour due to these removals.

B - Broad class used for subsurface horizons that have been transformed substantially by a soil formation process such as colour and structure development; the deposition (illuviation) of materials such as clays, organic matter, iron, aluminium, carbonates, or gypsum; carbonate or gypsum loss; brittleness and high density; or intense weathering leading to the accumulation of weathering-resistant minerals.

C - A horizon minimally affected or unaffected by the soil formation processes.

R - Bedrock.

Types of Indian Soil:

1. Alluvial Soil

This type of soil mainly found in the Indo-Ganga and Brahmaputra plain i.e. the whole northern plain and in some parts of the river basin in the south and some plateau region.

This soil is also found in the deltas of the Mahanadi, Godavari, Cauvery and Krishna.

Alluvial soil can be broadly categorised in two types i.e. New alluvial soil (Khadar) and old alluvial soil (Bhangar). Both the Khadar and Bhangar soils contain calcareous concretions (Kankars).

Crops Grown: the Alluvial soil is suitable for the Rabi and Kharif crop like cereals, cotton, oilseeds and sugarcane.

They are generally rich in potash but poor in phosphorous.

2. Regur or Black soil

The regur or black soils have developed extensively upon the Lava Plateaus of Maharashtra, Gujarat, Madhya Pradesh mainly Malwa and are formed due to volcanic activities.

These soils are very fertile and contain a high percentage of lime, iron and a moderate amount of potash.

The type of soil is especially suited for the cultivation of cotton and hence sometimes called 'black cotton soil.'
Crops Grown: Cotton, Jowar, Wheat, Linseed, Gram, Fruit and Vegetable.

The black soil is highly retentive of moisture.

3. Red Soil

Red soils develop on granite and geneses rocks under low rainfall condition i.e. due to weathering of the metamorphic rocks.

These soils are red in colour due to the high concentration of Iron Oxide.

These soils are friable and medium fertile and found mainly in almost whole of Tamil Nadu, South-eastern Karnataka, North-eastern and South-eastern Madhya Pradesh, Jharkhand the major parts of Orissa, and the Hills and Plateaus of North-east India.

These soils are deficient in Phosphoric acid, organic matter and nitrogenous material.

Crops Grown: Wheat, Rice, Millet's, Pulses.

4. Laterite Soil

Laterite is a kind of clayey rock or soil formed under high temperature and high rainfall and with alternate dry and wet period.

Laterite and lateritic soils are found in South Maharashtra, the Western Ghats in Kerala and Karnataka, at places in Odisha, small parts of Chottanagpur and in some parts of Assam, Tamil Nadu, Karnataka, and in western West Bengal (particularly in Birbhum district).

Crops Grown: Coffee, Cashew etc.

This type of soil is unsuitable for agriculture due to the high content of acidity and inability to retain moisture.

5. Desert soil

This type of soils found in Rajasthan, Haryana and the South Punjab, and are sandy.

In the absence of sufficient wash by rainwater, soils have become saline and rather unfit for cultivation.

In spite of that cultivation can be carried on with the help of modern irrigation.

Wheat, bajra, groundnut, etc. can be grown in this soil.

This type of soil is rich in Phosphates and Calcium but deficient in Nitrogen and humus.

6. Mountain Soil

Soil found in higher altitude on the mountain is called as Mountain soil.

The characteristics of this type of soil are changed according to the altitudes.

This type of soil is suitable for the cultivation of potatoes, fruits, tea coffee and spices and wheat.

Type of Soils based on the size of particles

1. Sandy Soil

Particles are larger in size.

The particles cannot fit close together and hence there is enough space among them.

It is not fit for vegetation as it does not retain water.

However, millets can be grown on sandy soil.

2. Clayey Soil

Particles are very small in size.

Very little space among the particles.

Water does not drain quickly through clayey soil because of less space among particles.

So, clayey soil is not well aerated and retains more water.

3. Loamy Soil
Particles are smaller than sand and larger than clay.

Loamy soil is the mixture of sandy soil, clayey soil and silt.

Silt is the deposit in river beds.

The soil has the right water holding capacity and is well aerated.

It is considered the best soil for the growth of plants.

Types of Agriculture in India
There are different types of farming activities performed in India which are as follows:

Subsistence Farming
Subsistence farming is a type of farming in which nearly all the crops or livestock raised are used to maintain the farmer and farmer's family leaving little.

Subsistence farms usually consist of no more than a few acres, and farm technology tends to be primitive and of low yield.

Mixed farming
Mixed farming is an agricultural system in which a farmer conducts different agricultural practice together, such as cash crops and livestock

The aim is to increase income through different sources and to complement land and labour demands across the year.

Shifting cultivation
Shifting cultivation means migratory shifting agriculture.

Under this system, a plot of land is cultivated for a few years and then, when the crop yield declines because of soil exhaustion and the effects of pests and weeds, is deserted for another area.

Here the ground is again cleared by slash-and-burn methods, and the procedure is repeated.

Other Names of Shifting Cultivation

Shifting Cultivation Name	Country
Chena	Sri Lanka

Ladang	Java and Indonesia
Jhum	North-eastern India
Podu	Andhra Pradesh
Milya	Mexico and Central America
Konuko	Venezuela
Roka	Brazil
Milpa	Yucatan and Guatemala

Extensive Farming

This is a system of farming in which the farmer uses the limited amount of labour and capital on a relatively large area.

This type of agriculture is practised in countries where population size is small and land is enough.

Per acre yield is low but the overall production is in surplus due to less population.

Here machines and technology are used in farming.

Intensive Farming

This is a system of farming in which the cultivator uses a larger amount of labour and capital on a relatively small area.

This type of farming is performed in countries where the population to land ratio is high i.e. the population is big and the land is small.

Annually two or three types of crops are grown over the land.

Manual labour is used.

Plantation Agriculture

In this type of agriculture, cash crops are mainly cultivated.

A single crop like rubber, sugarcane, coffee, tea is grown.

These crops are major items of export.

Major Crops & Cropping Patterns in India

Major crops are generally classified as:

Food Crops Rice, Wheat, Millets, Maize, and Pulses.

Cash Crops Sugarcane, Oilseeds, Horticulture crops, Tea, Coffee, Cotton, Rubber, and Jute.

Cropping Season in India

	Kharif crops	Rabi crops	Zaid crops
Time	Kharif crop also known as the autumn crop or monsoon crop are the plants which are cultivated in the monsoon season which extends from June to September.	Also known as winter crops. They are cultivated during the period typically extending between September to April. These plants are cultivated in spring seasons.	These are summer season crops. These crops are grown between April and September or between Rabi season and Kharif season
Condition	Require wet and hot conditions to grow	Require cold and relatively dry conditions to grow	Mostly sown in Gangetic belts of the region.
Examples	Rice(Paddy), Maize, Groundnut, cotton, Soybean, Pigeon Pea(arhar), Mung bean, Red chilies, Sugarcane, Turmeric, Millets like Ragi, Jowar, Bajra	Wheat, Chickpea, mustard, linseed, barley, Sesame, Sunflower, Coriander, Peas, Onion, Potato, Tomato etc	Cucumber, watermelon, bitter gourd, Muskmelon, pumpkin, ridged gourd

Major Food Crops

Rice

    Soil Type: Deep clayey and loamy soil.

    Temperature: Between 22-32°C with high humidity.

    Rainfall: Around 150-300 cm.

    Top Rice Producing States are West Bengal > Punjab > Uttar Pradesh > Andhra Pradesh > Bihar.

    In **Odisha,** three varieties of paddy crops are grown in a year which is **Aus, Aman, and Boro.**

    China is the top rice-producing country in the world. **India comes 2nd**.

Wheat

    Soil Type: Well-drained fertile loamy soil

    Temperature: Between 10-15°C (Sowing time) & 21-26°C (Ripening & Harvesting) with bright sunlight.

    Rainfall: Around 75-100 cm.

    Top Wheat Producing States in India: Uttar Pradesh > Punjab > Madhya Pradesh

    India is the **2nd largest producer after** China.

Millets

Soil Type: It Can be grown in an inferior alluvial or loamy soil

    Jowar- Rainfed crop is grown in moist areas with less or no irrigation.

Bajra- Sandy soils & shallow black soil.

Ragi- Red, black, sandy, loamy & shallow black soils. (dry regions)

Temperature: Between 27-32°C

Rainfall: Around 50-100 cm.

Top Millets Producing States in India: Rajasthan > Karnataka > Maharashtra

Jowar: Maharashtra > Karnataka > Madhya Pradesh

Bajra: Rajasthan > Uttar Pradesh > Gujarat

Ragi: Karnataka > Tamil Nadu > Uttarakhand

These are also known as **coarse grains.** They have a **high nutritional value. E.g., Ragi** is very **rich in calcium, iron, other micronutrients** and **roughage.**

Maize

Soil Type: Old alluvial soil.

Temperature: Between 21-27°C

Rainfall: High rainfall.

Top Producing States: Karnataka > Maharashtra > Madhya Pradesh

India is the **seventh-largest producer**

Pulses

Soil Type: Sandy-loamy soil.

Temperature: Between 20-27°C

Rainfall: Around 25-60 cm.

Top Producing States: Madhya Pradesh > Rajasthan > Maharashtra

India is the **largest producer** as well as the largest **consumer** of pulses in the world.

Major pulses grown in India are **urad, tur (arhar), moong, masur, peas and gram.**

Pulses are **leguminous crops. They** help in restoring soil fertility by **fixing nitrogen from the air (Except Arhar).** This is why these crops are grown in rotation with other crops.

Sugarcane

Soil Type: Deep rich loamy soil.

Temperature: Between 21-27°C with a hot & humid climate.

Rainfall: Around 75-100 cm.

Top Producing States: Uttar Pradesh > Maharashtra > Karnataka

India is the **2nd largest producer of sugarcane after Brazil.**

It is the main source of **sugar, khandsari, gur (jaggery), and molasses.**

Oilseeds

Soil Type: Loam to clayey loam & well-drained sandy loams.

Temperature: Between 15-30°C

Rainfall: Around 30-75 cm.

Top Producing States: Madhya Pradesh > Rajasthan > Gujarat

The main oilseeds produced in India are **groundnut, coconut, mustard, sesamum (til), soyabean, cotton seeds, castor seeds, linseed & sunflower.**

Groundnut is a Kharif crop & accounts for about **half of the major oilseeds produced** in the country.

Sesamum is a Kharif crop in north & rabi crop in south India.

Linseed and mustard are rabi crops.

Castor seed is grown in both seasons i.e. rabi & Kharif.

Tea

Soil Type: Deep & fertile well-drained soil, rich in humus and organic matter.

Temperature: Between 20-30°C

Rainfall: Around 150-300 cm.

Top Producing States: Assam > West Bengal > Tamil Nadu.

India- **2nd largest producer of** tea plants.

Slopes of eastern hills have **humid climate & evenly distributed rainfall without waterlogging which** are optimal conditions for **terrace farming** of tea plants.

Tea is a **labor-intensive industry.** Tea requires abundant, cheap, and skilled labor. It is processed within the tea garden to retain its freshness.

Coffee

Soil Type: Well-drained and deep friable loamy soil.

Temperature: Between 15-28°C

Rainfall: Around 150-250 cm.

Top Producing States: Karnataka > Kerala > Tamil Nadu

India is the **seventh-largest producer.**

Hills that have well-defined shade canopy, comprising evergreen leguminous trees give the optimal condition for coffee cultivation which is why it is mainly concentrated in the hilly regions.

'Arabica' is the Indian variety of coffee which is famous worldwide.

Rubber

Soil Type: Rich well-drained alluvial soil.

Temperature: Above 25°C with a moist & humid climate.

Rainfall: More than 200 cm.

Top Producing States: Kerala > Tamil Nadu > Karnataka.

It is an **equatorial crop.** But under special conditions, it can **also be grown in tropical and sub-tropical.**

Cotton

Soil Type: Cotton requires Well-drained black cotton soil of Deccan Plateau.

Temperature: Between 21-30°C

Rainfall: Around 50-100cm.

Top Cotton Producing States: Gujarat > Maharashtra > Telangana

Cotton needs **210 frost-free days & bright sun-shine for its growth.**

Cotton is a Kharif **crop and requires 6 to 8 months to mature.**

Jute

Soil Type: Well-drained alluvial soil

Temperature: Between 25-35°C

Rainfall: Around 150-250 cm

Top Producing States: West Bengal > Bihar > Assam

Jute is **mainly concentrated in eastern India because** of the **rich alluvial soil of Ganga-Brahmaputra delta.**

It is known as the **golden fiber.**

India is the **largest producer of jute.**

Natural Vegetation, Different Types of Forests of India

Tropical Deciduous Forests

These are the most widespread and the most extensive forests of India.

They are also known as monsoon forests.

These are connected with those parts of India which receive annual rainfall between 200 cm and 70 cm.

Here rainfall is seasonal in nature.

In this forest type, trees shed their leaves for about six to eight weeks in dry summer.

The animals found in these are: *lion, tiger, pig, deer, elephant, a variety of birds, lizards, snakes, tortoise, etc.*

(i) Tropical Moist Deciduous Forests

Annual rainfall between 200 & 100 cm.

Found in: (a) an eastern part of India- northeastern states, along with the foothills of Himalayas, (b) Jharkhand, West Orissa and Chhattisgarh, (c) on the eastern slopes of the Western Ghats.

Examples: *teak, bamboos, sal, shisham, sandalwood, khair, kusum, arjun, mulberry, etc.*

(ii) Tropical Dry Deciduous Forests

Annual rainfall between 100 & 70 cm.

Found in: (a) the rainier parts of the peninsular plateau and (b) the plains of Uttar Pradesh and Bihar.

Examples: teak, sal, peepal, neem etc.

Tropical Thorn Forests

These are connected with those parts which receive rainfall less than 70 cm.

Here, rainfall is erratic, irregular and inconsistent.

Xerophytes dominate regions covered with the tropical thorn.

Found in the north-western part including *semi-arid areas of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Haryana.*

Main plant species here are *acacias (babool), palms, euphorbias,* Cactus, khair, , keekar etc.

In this vegetation type, stem, leaves and roots of plants are adapted to conserve water.

Stem is succulent and leaves are mostly thick and small to minimize evaporation.

Common animals here are *rats, mice, rabbits, fox, wolf, tiger, lion, wild ass, horses, camels, etc.*

Tropical Montane Forests

The decrease in temperature with the rise in altitude is responsible for the corresponding change in natural vegetation.

There exists the same hierarchy from foothills of the mountain to the top of it as is observed from tropical to tundra region.

Mostly found in the southern slopes of Himalayas, places having high altitude in Southern and Northeastern India.

Upto 1500 n of height, tropical moist deciduous forests exist with *shesham* as the main tree.

Between 1000-2000m of height, wet temperate type of climate persist wherein evergreen broad-leaf trees like *oaks and chestnut*

Between 1500-3000 m of height, temperate forests covering coniferous trees like *Chir, pine, deodar, silver fir, spruce, cedar, etc.*

At higher altitudes above 3500m wet temperate grasslands are common like *Merg (Kashmir), bugyals (Uttarakhand), etc.*

Common animals that are found in these forests are *Kashmir stag, spotted deer, wild sheep, jackals, yak, snow leopard, rare red panda, sheep and goats with thich fur*, etc.

In India, there are studied under two groups: Northern Montane Forests and Southern Montane Forests.

Northern Montane Forests: These are connected with Himalayan mountain ranges. Vegetation types are controlled by sunlight, temperature and rainfall which is described above.

Southern Montane Forests: These are connected with hills of *Nilgiris, Anaimalai and Cardamom*. These are wet temperate forests which have great endemic biodiversity and these are described as Shola forests.

Mangrove Forests

Mangrove forests are connected with deltaic regions of tropical and sub-tropical zones.

These are also known as tidal forests and littoral forests as these are connected with the inter-tidal region.

Their biodiversity and forest density are comparable with equatorial rainforest and tropical evergreen and semi-evergreen forests.

Mangroves are salt tolerant plants with roots being adapted to become pneumatophores (these roots emerged from the ground and grow in upward direction).

Mangrove ecosystem is a unique ecosystem as it has tolerance for periodic flooding and dryness; and mild salinity as well.

India has the largest cover of Mangrove forest in the world.

Sunderban, Mahanadi, Godaveri-Krishna and Kaveri delta are most importantly covered with these forests.

Sunderban is the largest mangrove in the world. It is famous for *Sundari tree* which provides durable hard timber.

Some other example are Rhizophora, Avicennia etc.

Palm, coconut, keora, agar, etc. also grow in some parts of the delta.

Royal Bengal Tiger is a famous animal in these forests.

Turtles, crocodiles, gharials, snakes, are also found in these forests.

Bhitarkanika mangrove of Mahanadi delta is also famous for its rich biodiversity.

Solar System
Facts about Sun and Planets

Sun

The only star in our solar system and powerhouse of the solar system.

Composed of Hydrogen (73%), Helium (25%) gases and other metals. Sun carries almost 99% of the mass of our solar system.

Approximately 15 crore Kilometres further away from Earth. It takes around 8 minutes 30 seconds for light at the speed of 3 lakh Km/sec to reach the earth.

Temperature at surface= 5800 K or 5600 degree Celsius.

The temperature at the centre= 15.7 million K

Planets
1. Mercury

The closest planet to the Sun and a very hot planet.

Smallest planet in the solar system with a diameter of 4900 Km.

Fastest Planet with speed of 172500 Km per hour to complete revolution around Sun in 88 days.

The planet with no water and gases like Nitrogen, Hydrogen, Oxygen and Carbon Dioxide.

2. Venus

Hottest planet in the solar system with the surface temperature of 478 degree Celsius.

Also known as "Earth's Twin". It is because of similarity in size and mass between Venus and Earth.

One of the two planets in the solar system which rotate around the axis in a Clockwise direction.

Brightest Star in the Solar system. It can be seen in the morning and evening with open eyes. So known as "Evening Star" and "Morning Star".

3. Earth

The only Planet to give support to life with a pleasant atmosphere.

Also known as "Blue Planet" because of the presence of water on it.

It has one natural satellite named "Moon".

4. Mars

Known as "Red Planet" because of Iron-rich red soil.

Second smallest planet in the solar system after Mercury.

Has two natural moons "Phobos" and "Deimos".

Has a thin atmosphere and surface with valleys, craters, deserts and ice caps etc.

"Olympus Mons" – Largest volcano and the tallest mountain in solar system lies on Mars.

5. Jupiter

Largest planet of the solar system with the shortest rotation

Has atmosphere filled with Hydrogen, Helium and other gases

The third brightest object in the night sky after the Moon and Venus.

Great Red Spot, a giant storm in the solar system exists on this planet.

Has at least 69 moons, including 4 large Galilean Moons "Io, Europa, Ganymede, and Callisto" which were discovered by Galileo. "Ganymede" is the largest among them.

It has an unclear ring around it.

6. Saturn

Second largest planet in the solar system and a gas giant.

Has bright and concentric rings around it which are made up of tiny rocks and pieces of Ice.

Saturn can float on water because it has less density than water.

Has at least 62 moons and Titan is the largest among them.

7. Uranus

Has the third- largest planetary radius and fourth largest planetary mass in the Solar system.

Greenish in colour.

Discovered by William Herschel in 1781.

Known as "Ice Giant". The atmosphere of Uranus is composed of Hydrogen and Helium primarily, but it also contains more water, ammonia etc.

Has the coldest planetary atmosphere in the solar system.

Rotates clockwise on its axis like Venus but unlike other planets

Has at least 25 moons. Famous moons- Miranda, Ariel and Umbriel

8. Neptune

Farthest planet from the Sun.

It is also "Ice Giant". Atmosphere primarily composed of Hydrogen and Helium.

Bluish in colour because of Methane.

The fourth largest planet and the third most- massive planet in the solar system

Discovered by Johann Galle and Urbain Le Verrier in 1846. The only planet in the solar system found by Mathematical Predictions.

Has known 14 satellites. Famous moon – Triton

Other

Pluto

As per the new definition of Planets determined by International Astronomical Union (IAU), Pluto has been omitted from the list of planets in 2006.

Pluto is considered as a dwarf planet (size between planets and asteroids) now and it is a member of Kuiper Belt.

Kuiper Belt

It is a spherical boundary outside the orbit of Neptune containing a number of asteroids, rocks, and comets.

Interior Structure of the Earth

Structure of the Earth
Crust

The crust is the outermost brittle solid part of Earth ranging from 5 – 70 km.

The Crust can be divided into:

Continental Crust: Mean thickness is around 30 km, made of SIAL (Silica and Aluminium) and is thicker than Oceanic crust. Its density is around at 2.7 g/cm^3

Oceanic Crust: Mean thickness is around 5 km made of SIMA (Silica and Magnesium). Oceanic crust is *basaltic* in origin and relatively of *younger age* than the continental crust. The basaltic crust is denser at 3.0 g/cm^3

Mantle

They extend up to 2890 km.

Asthenosphere: The upper portion of the mantle which extends up to around 400 km and the main source of Magma.

The density of mantle is 3.4 g/cm^3

The lower mantle is in solid state which extends up to the Core-Mantle boundary. This layer is called as the D″ (pronounced dee-double-prime) layer.

Note:

The Crust and Upper part of Mantle combined called as Lithosphere.

Core

The Core extends to 2870 – 6370 km.

It is divided into

Liquid Outer Core

Solid Inner Core: Made of NIFE – Nickel and Ferrous.

Note: Inner core rotates slightly faster than the rest of the planet.

The density at the outer core is at 5.5 g/cm^3 which increase to 13 g/cm^3 in the inner core.

Note:

Dynamo theory: It suggests that convection in the outer core, combined with the Coriolis effect, gives rise to Earth's magnetic field.

Schematic sections through the Earth:

Continental crust

Oceanic crust

Upper mantle

Lower mantle

Outer core

Inner core

Boundaries in the Earth's interior

Conrad Discontinuity: Between Upper and lower Continental Crust.

Mohorovičić discontinuity, "Moho": Crust-Mantle boundary

Gutenberg discontinuity: Core-Mantle boundary

Lehmann discontinuity: Boundary between Outer and Inner Core

Important Facts

Earth's radius: 6370 km.

Earth diameter: about 12756 km at equator & about 12715 km at the poles.

Crust: 0.5 % of the volume of the Earth
Mantle: 83 % of the volume of the Earth
Core: 16 % of the volume of the Earth

Temperature, Pressure and Density increases with the increasing distance from the surface to the interior in deeper depths

Gravitation force is greater near the poles and lesser near the equator

Gravity anomaly is the difference in gravity value according to the mass of the material

Earthquake

It is a shaking of the Earth which is caused due to the release of energy along a fault line.

Hypocentre or Focus: The point where the energy of an earthquake is released

Epicentre: It is the point on the surface, directly above the focus, the first one to experience the waves.

Earthquake waves are divided into

Body waves: created due to the release of energy at the Hypocentre (focus). These waves travel in all directions through the body of the earth. It can be divided into:

P-waves: They are called Primary waves. They move faster and are first to arrive at the surface. They are similar to sound waves and can travel through Solid, Liquid and Gaseous materials. P waves vibrate *parallel* to the direction of the wave which causes stretching and squeezing of the material

S-waves: They are called Secondary waves which arrive at a time lag with Primary waves. They can travel *only* through Solid materials. S-waves vibrate in *perpendicular* to the wave direction which creates crests and troughs.

Surface waves: the body waves interact with the surface rocks and generate surface waves which move along the surface rocks. They are the *last* to report on the Seismograph and are the most *destructive* They cause displacement of rocks and structural collapse. Surface waves vibrate *perpendicular* to the wave direction.

The velocity of the waves is directly proportional to the density of the material through which they travel. Differing density leads to reflection or refraction of the seismic waves.

Shadow Zone

Shadow zones are those specific areas where seismic waves are not reported. These zones are distinct for P and S-waves.

Within the distance, up to 105° from epicentre has recorded the arrival of both waves.

The zone between 105° - 145° from epicentre is identified as a shadow zone for both types of waves (P & S).

Beyond 105° Zone does not receive S-waves. Thus the shadow zone of S-wave is much larger than P-wave.

P-wave appears after 145° from the epicentre.

Types of Earthquake

Tectonic: They are caused due to the sliding of rocks along a fault plane.

Volcanic: they are confined to areas of active volcanoes. They are caused due to the explosion of volcanos and the corresponding tectonic disturbances.

Collapse: they are caused in areas of intense mining activities where the roofs of underground mines collapse causing minor tremors

Explosion: they are caused due to the explosion of chemical or nuclear devices.

Important facts

A seismograph is an instrument that records the waves reaching the surface.

Richter Scale: it is known as *Magnitude* scale as it measures the energy released during the quake. It is expressed in absolute numbers 0-10.

Mercalli Scale: it is called an *Intensity* scale as it measures the visible damage caused by the earthquake. The range is from 1 – 12.

Tsunami

These are long-wavelength, long-period sea waves or tidal waves produced by the sudden or abrupt displacement of large volumes of water (including when an earthquake occurs at sea.)

The effect of Tsunami would occur only if the epicentre of the tremor is below oceanic waters and the magnitude is sufficiently high.

WORLD GEOGRAPHY

1. Important Mountain Ranges and Peaks of the Worlds

Sr.	Mountain Range	Important/Highest Peaks	Location	Description

1.	Rocky Mountains	Mt. Elbert (highest peak in the Rockies)	North America	It is one of the longest fold mountains in the world and extends from Canada to Western US (New Mexico State)
2.	Appalachian Mountains	Mt. Mitchell, North Carolina, US (highest peak of Appalachian Mountains)	North America	It is a fold mountain with rich in mineral resources
3.	Alps	Mont Blanc (French – Italian border)	Europe	It is a folded mountain and source for rivers like Danube, Rhine, etc.
4.	Sierra Nevada	Mt. Whitney	California, USA	Habitat for many Red Indian tribes
5.	Alaska Range	Mt. McKinley	North America	Mt. McKinley highest peak in North America
6.	Altai Mountains	Belukha mountain	Central Asia	Young folded mountain which extends from Kazakhstan to northern China.
7.	Andes Mountains	Mt. Aconcagua	South America	Longest mountain chain in the world
8.	Atlas Mountains	Mt. Toubkal	Northwestern Africa	Young fold mountain spreading over Morocco and Tunisia.
9.	Drakensberg Mountains	Mt. Lesotho	South Africa	Young folded mountain

10.	Caucasus Mountain	Mt. Elbrus	Europe	Located between the Black Sea and the Caspian Sea
11.	Ural Mountains	Mt. Narodnaya	Russia	This mountain range act as a boundary between Europe and Asia.
12.	Hindukush Mountains	Mt. Trich Mir	Pakistan and Afghanistan	Folded mountain with rugged topography which makes it difficult for transportation.
13.	Himalayas	Mt. Everest	Asia	Young fold mountains in Asia which separates Indian sub-continent from Asian plains
14.	Arakan Yoma	Mt. Kennedy peak	Myanmar	It extends from north to south direction. Shifting cultivation is practised.
15.	Kunlun Mountains	Mt. Muztag	North of Tibetan plateau and western China	It is one of the young folded mountains.

16.	Vosges	Mt. Grand Ballon	Eastern France, Europe	Famous for the cultivation of grapes and manufacture of wines.
17.	Great Dividing Range	Mt. Kosciuszko	Australia	This range is the source for the rivers Darling and Murray.

2. List of Important Rivers of the World

Sr. No.	RIVER	LOCATION	DESCRIPTION
1.	River Amazon	South America	It is the second longest river which flows through Peru, Columbia, Brazil and drains into the Atlantic Ocean.
2.	River Mississippi	North America	It forms a bird-foot like a delta at the Gulf of Mexico, River Missouri is an important tributary of it.
3.	River St. Lawrence	North America	It drains into Gulf of St. Lawrence which is an important transport corridor of North America.
4.	River Orange	South Africa	Longest river of South Africa and contains diamond beds along its mouth.
5.	River Congo	Africa	This river crosses the equator twice and drains into the south Atlantic Ocean.
6.	River Nile	Africa	It is the longest river in the world, originates near Lake Victoria and drains in the Mediterranean Sea.

7.	River Rhine	Western Europe	It flows through Germany and Netherlands. It is one of the busiest waterways of Europe.
8.	River Danube	Europe	It passes through Germany, Hungary, Austria, Slovakia, Serbia, Romania and drains into the Black Sea.
9.	River Volga	Europe, Russia	It is the longest river in Europe, it drains into the Caspian Sea.
10.	River Tigris	Turkey, Iraq	Cities like Mosul, Baghdad, Basra were located along its banks and it drains into the Gulf of Persia.
11.	River Euphrates	Turkey, Syria, Iraq	Main source of water for Syria. It drains into the Persian Gulf.
12.	River Irrawaddy	Myanmar	Drains into Gulf of Martaban
13.	River Mekong	China, Laos, Cambodia, Vietnam	It is also called 'Danube of the east', and it merges with south china sea.
14.	River Yangtze	China	It originates from the Tibetan plateau and ends in east china sea. It is the longest river in China.

3. Important Lakes of The World

Sr. No.	NAME	LOCATION	FACTS
1.	Titicaca lake	South America	It is the highest navigable lake in the world located in the Andes mountains.
2.	Great bear lake	Canada, North America	It is a big glaciated lake of Canada. The Eskimos of Canada camp here during the summer season.

3.	Great lakes	North America	This comprise of five large lakes of North America such as Lake Superior, Michigan, Huron, Erie, Ontario. Lake Superior is the second largest lake in the world.
4.	Lake Malawi	Central Africa	It is the third largest lake of Africa and borders Tanzania, Mozambique.
5.	Lake Tanganyika	East Africa	It is deepest and second largest lake of Africa.
6.	Lake Victoria	Africa	Largest river of Africa and passes through the equator.
7.	Lake Kainji	Africa	Largest manmade lake of Africa, used for irrigation purposes.
8.	Dead sea	West Asia	It is bordered by Jordan in the east and Palestine, Israel in the west. It is known for high salinity.
9.	Aral Sea	Central Asia	Located between Uzbekistan and Kazakhstan. It is shrinking rapidly in recent years.
10.	Lake Baikal	Russia	It is the largest freshwater lake in Asia and deepest in the world.
11.	Caspian Sea	Eurasia	It is the largest lake in the world and is surrounded by Russia, Kazakhstan, Turkmenistan, Iran and Azerbaijan.

Important Ocean Currents:

Major Ocean Currents of the Atlantic Ocean

Warm currents of the Atlantic Ocean	Cold Current of the Atlantic Ocean

1. North Equatorial Current which bifurcates into Antilles Current and Caribbean Current.	**1. Labrador Current -** Originates in the Baffin Bay drifts south eastwards Baffin and Greenland and merges with Gulf stream off New Foundland.
2. South Equatorial Current bifurcates at the Current protruding landmass of northeast Brazil into northern Cayenne Current and the southern Brazilian Current (South Atlantic Ocean).	**2. The Irminger Current** of Greenland Current Flows between Greenland and Iceland and merges with North Atlantic Drift.
3. Gulf stream - One of the strongest ocean system which originates in the Gulf of Mexico. It consists of **(i) Florida Current -** From the Strait of Florida to Cape Hatteras (USA) **(ii) Gulf Stream (cold wall) -** From Cape Hatters to the Grand Bank (Northeast USA) **(iii) North Atlantic Drift -** From the Grand Bank, near New Foundland to western Europe.	**3. Canaries Current -** Continuation of North Atlantic Drift along the western coast of the Iberian Peninsula and North Africa in the southern direction.
4. Counter Equatorial Current - Flows from west to east in between the North and South Equatorial Current.	**4. Falkland Current -** Flows northwards along the eastern coast of South America up to Argentina.
	5. South Atlantic Drift - Under the influence of westerlies at about 400S latitude, Brazilian Current continues as the South Atlantic Current.
	6. Benguela Current - Flows northwards along the western coast of South Africa.

Major Ocean Currents of the Pacific Ocean

WARM CURRENTS OF THE PACIFIC OCEAN	COLD CURRENTS OF THE PACIFIC OCEAN
1. North Equatorial Current - Flows westwards from the western coast of Mexico to the Philippines.	**1. Oyashio (Kurile) Current -** Bering Current or Alaskan Current and Okhotsk Current meet to form Oyashio Current.
2. South Equatorial Current - Flows westwards in the southern Pacific Ocean and bifurcates into northern and southern branches near new Guinea.	**2. California Current -** Flows along with the west-tern cost of USA and finally merges with North Equatorial Current (Warm) to complete the circulation.

3. Counter Equatorial Current - Flows between north and south Equatorial Current in the opposite direction.	3. West Wind Drift - Flows from west to east in the zone of 400-500S latitude under the influence of Westerlies.
4. Kuroshio or Japan Current - Flows from Taiwan to Bering Strait.	4. Peruvian (Humboldt) Current - Flows northwards along the western coast of South America is actually the continuation of West Wind Drift.

Major Ocean Currents of the Indian Ocean

WARM CURRENTS OF THE INDIAN OCEAN

Indian Equatorial Current: Flows westwards in the south Indian Ocean, bifurcates at Madagascar and flows are Mozambique and Aughulas Current in the southern direction.

South West Monsoon Current: Flows along the coasts of India in an easterly direction.

North-West Monsoon Current: Flows along the eastern coasts of India during winter.

Major Ocean Routes of the World
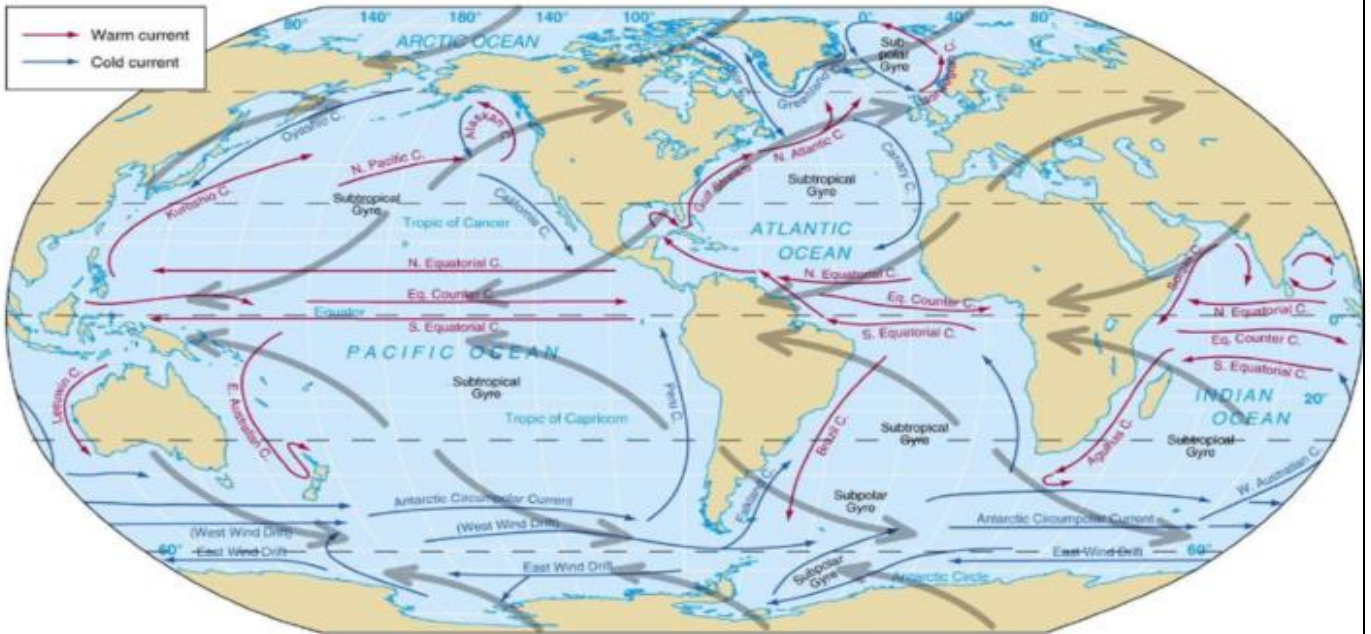
List of temperate Grasslands and their location:

Fig. 137 The Temperate Grasslands
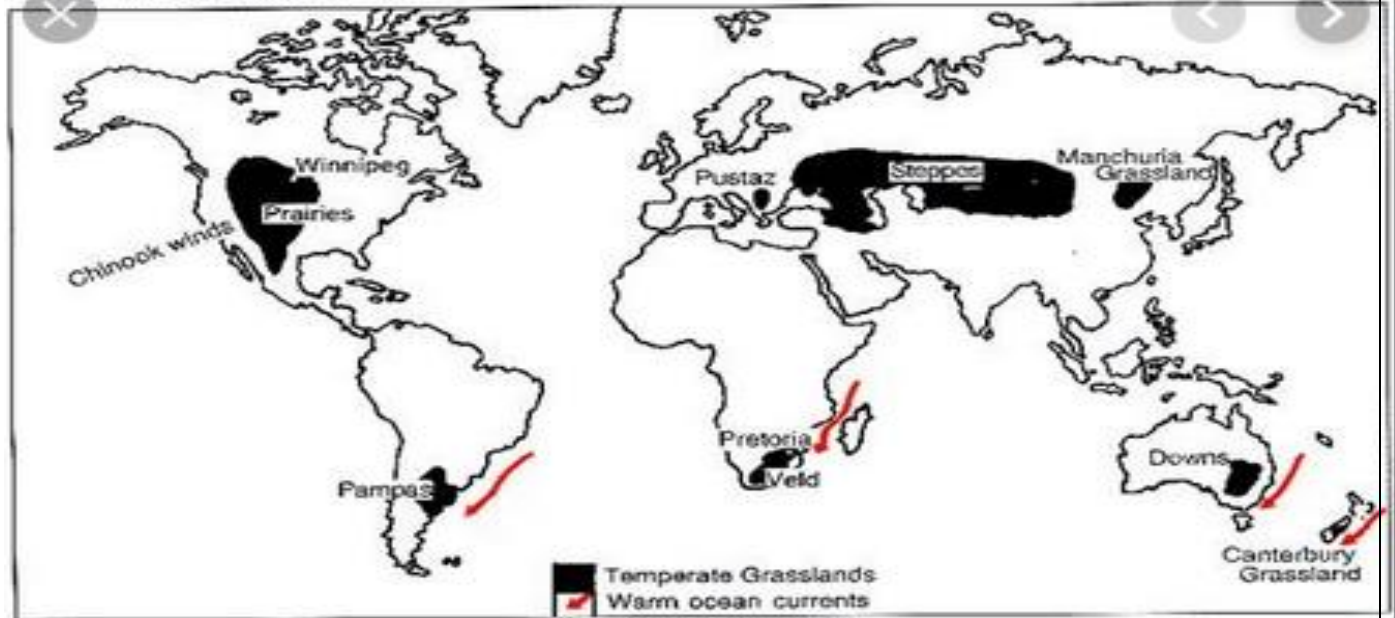
Distribution

They lie in interiors of continents, bordering deserts and away from the Mediterranean region.

Placed under the Westerly wind belt.

In the northern hemisphere, grasslands are entirely continental and extensive.

In Eurasia, they are called Steppes stretched from shores of Black sea eastwards to foothills of Altai Mountains.

Grasslands are known by different names as given below:

Region	Grassland
Hungary and plains of Manchuria	Pustaz
North America	Prairies
Argentina and Uruguay	Pampas
Northern South Africa	Bush-Veld (more tropical)
Southern South Africa	High Veld (more Temperate)
Murray-Darling basin of Australia	Downs
New Zealand	Canterbury

Hot and Cold Local winds and their locations:

Local Winds are caused by the local difference in temperature and pressure.

Local Winds are of four types including hot, cold, conventional, and slope.

These Winds effects only the smaller areas.

Local Winds blow during a particular period of the day or year in a smaller area.

These winds are found in the lowest levels of the troposphere.

There are many such winds that blow all over the world, some of them are cool, some are warm, somewet and some dry.

Cold Winds includes Bore, Mistral, Gregale, Chinook, Purga, etc.

Warm Winds include Zonda, Sirocco, Chinook, Loo, etc.

Moist wind includes Elephanta.

Dry wind includes Calima.

Countries around important water bodies:

Countries surrounding Caspian Sea

Russia, Iran, Azerbaijan, Kazakhstan and Turkmenistan

Countries surrounding Black Sea

Ukraine , Russia, Georgia, Turkey, Bulgaria, Romania

Countries surrounding Red Sea

Eastern shore: Saudi Arabia. Yemen.

Western shore: Egypt. Sudan. Eritrea. Djibouti.

Countries surrounding the Adriatic Sea

Albania, Bosnia and Herzegovina, Croatia, Italy, Montenegro and Slovenia

Countries surrounding Mediterranean Sea

Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, and TurkeyLandforms: Fluvial, Glacial, Karst, Coastal & Arid

Process	Upper or Youth Stage	Middle or Mature Stage	Lower or Senile Stage
Erosion	Vertical Erosion	Vertical and lateral erosion	Later deposition
Gradient	Steep valley sides – V-Shaped valley	U-Shaped valley	Almost base level
Deposition	Active erosion with very little deposition	Erosion equals deposition	Lot of deposition. Formation of Deltas near river mouth
Landforms	Rapids and waterfalls, V-shaped valleys, gorges, river capture	Meanders formation, ox-bow lakes, interlocking spurs, river cliffs and slip-off slopes	Floodplains, deltas, estuary, meanders and oxbow lakes

Glacial Landforms

Landforms of Highland Glaciation

Corrie, Cirque or Cwm: A steep horseshoe-shaped basin.

Aretes or Pyramidal Peaks: When two corries cut back on opposite sides of a mountain, knife-edged ridges are formed called Aretes.

Bergschrund: a deep crack at the head of the glacier.

U-Shaped glacial troughs: Valley formed due to the downward movement of glaciers.

Hanging valleys: A tributary valley 'hangs' above the main valley so that its stream plunges down as a waterfall.

Rock basins and rock steps: Excavation of bedrock due to the glacial erosion process

Moraines: Pieces of rock fragments which becomes stationary after the glacier melts. They may be lateral moraine, median moraine, terminal moraine etc.

Landforms of Glaciated Lowlands

Roche moutonnee: a resistant residual rock hummock.

Crag and Tail: a mass of rock with precipitous slope on the upstream side and softer leeward slope.

Boulder clay or Glacial till: an unsorted glacial deposit comprising a range of eroded materials forming a monotonous and featureless landform.

Erratics: Boulders of varying size transported by the ice and composed of materials entirely different from those of the region.

Drumlins: Oval, elongated whale-back hummocks. It is known as the Basket of Eggs topography.

Eskers: they are long, narrow, sinuous ridges composed of sand and gravel which mark the former sites of sub-glacial meltwater stream.

Terminal moraines: Coarse debris deposited at the edge of the ice sheet.

Outwash plains: fluvioglacial deposits washed out from the terminal moraines. They are called Knob and kettle topography.
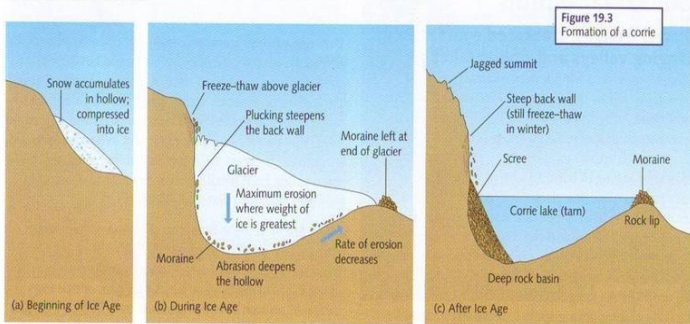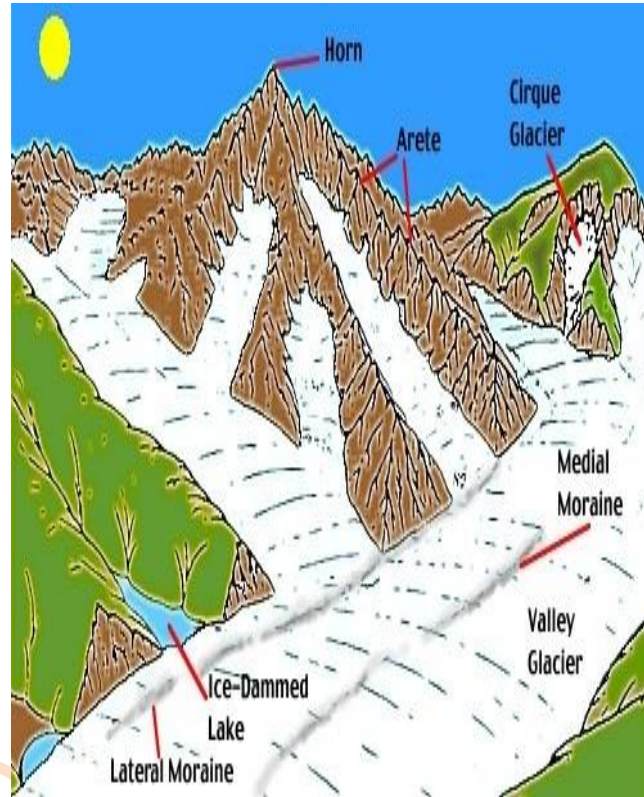
Arid or Desert Landforms
Desert Landscape

Hamada or Rocky desert

Reg or stony desert

Erg or sandy desert

Badlands: Hills are eroded into gullies and ravines.

Mountain deserts: Dissected desert highlands due to erosion.

Erosional Landforms

Deflation hollows: Winds lower the ground by blowing away the unconsolidated materials.

Mushroom rocks: A mushroom rock, also called rock pedestal, or a pedestal rock, is a naturally occurring rock whose shape, as its name implies, resembles a mushroom.

Inselbergs: isolated residual hills rising abruptly from the level ground.

Demoiselles: These are rock pillars which stand as resistant rocks above soft rocks as a result of differential erosion of hard and soft rocks

Zeugens: A table-shaped area of rock found in arid and semi-arid areas formed when more resistant rock is reduced at a slower rate than softer rocks around it under the effects of wind erosion

Yardangs: Yardang, a large area of soft, poorly consolidated rock and bedrock surfaces that have been extensively grooved, fluted, and pitted by wind erosion. The rock is eroded into alternating ridges and furrows essentially parallel to the dominant wind direction.

Ventifacts or dreikanter: these are pebbles faceted by sand-blasting.
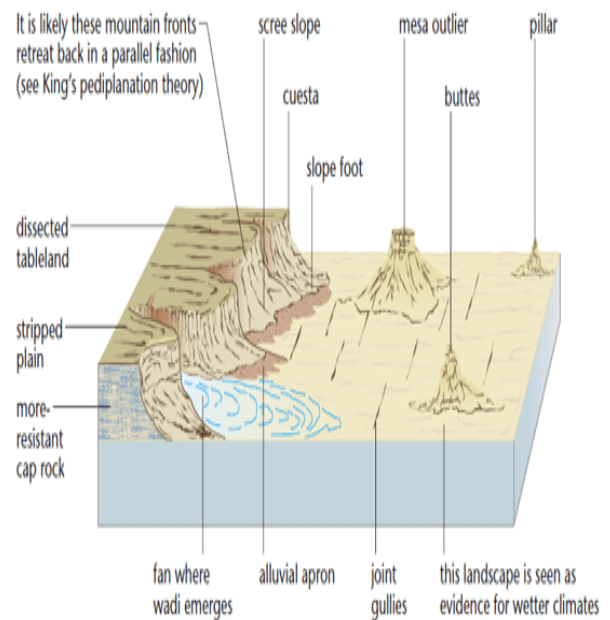
Depositional landforms

Dunes: Dunes are hills of sand formed by the accumulation of sand and shaped by the movement of winds.

Barchans: Crescent-shaped dunes occurring transversely to the wind direction.

Seifs: Longitudinal dunes, which are long, narrow ridges of sand, often over a hundred miles long lying parallel to the direction of prevailing winds.

Loess: the fine dust blown beyond the desert limits is deposited on neighbouring lands as loess.

Bolsons: It is a semiarid, flat-floored desert valley or depression, usually centred on a playa or salt pan and entirely surrounded by hills or mountains. It is a type of basin characteristic of basin-and-range terrain

Playas: an alkali flat or sabkha, a desert basin with no outlet which periodically fills with water to form a temporary lake.

Pediments: a broad, gently sloping expanse of rock debris extending outwards from the foot of a mountain slope, especially in a desert.

Bajadas: A bajada consists of a series of coalescing alluvial fans along a mountain front. These fan-shaped deposits form from the deposition of sediment within a stream onto flat land at the base of a mountain

Karst Topography

Grykes/Clints: Clints are the blocks of limestone that constitute the paving, their area and shape are directly dependent upon the frequency and pattern of grykes. Grykes, or scailps, are the fissures that isolate the individual clints

Swallow holes/Sink Holes (Dolines or Uvalas): A sinkhole is a depression or hole in the ground caused by some form of collapse of the surface layer.

Stalactites/Stalagmites: A stalactite is an icicle-shaped formation that hangs from the ceiling of a cave, and is produced by the precipitation of minerals from water dripping through the cave ceiling. A stalagmite is an upward-growing mound of mineral deposits that have precipitated from water dripping onto the floor of a cave.

Caverns: Large-scale features where caves are formed due to the dissolution of limestones. May include Poljies.

Karst landforms
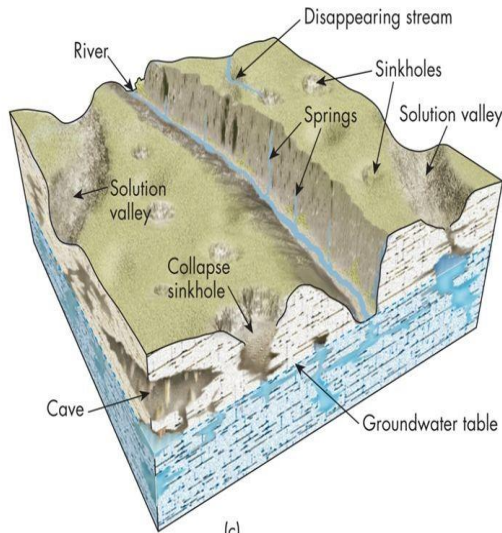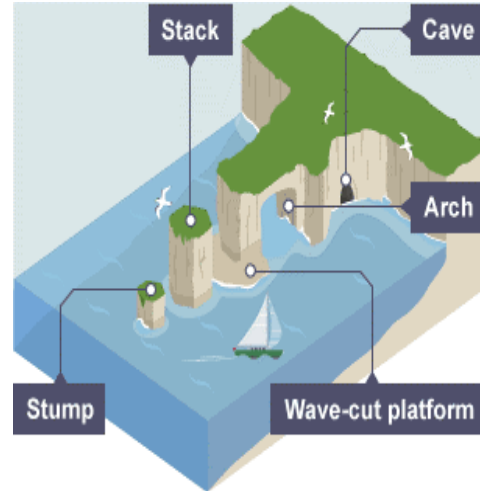
Coastal Landforms

Erosional Features

Capes and Bays: On exposed coasts, softer rocks are worn back into inlets, coves or bays due to erosion while the harder rocks persist as headlands, promontories or capes.

Cliffs and wave-cut platforms:

3. Cave, arch, stack and slump

4. Geos and gloups: Where a cave roof collapses, a narrow inlet or geo is formed.

Depositional Features

Beaches: Sands and gravels loosened from the land are moved by waves to be deposited along the shore as beaches.

Spits and bars: Deposition of material piling up into a ridge forming a spit with one end attached to the land and the other end projecting into the sea. When the ridge of shingle is formed across the mouth of a river, it is called a bar.
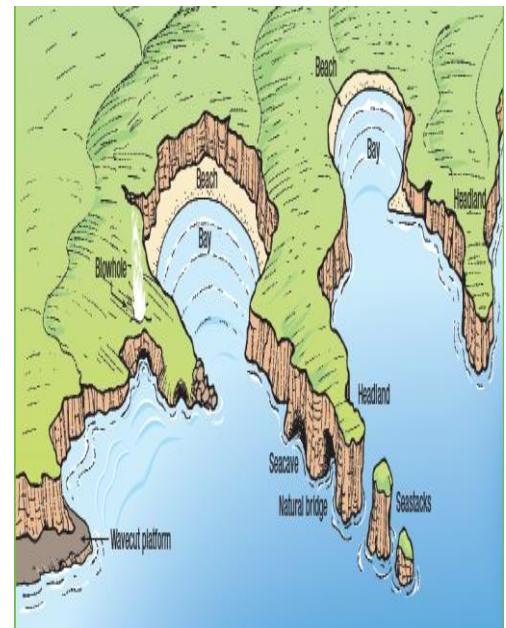
3. Marine dunes and dune belts: Due to on-shore wind's force, a large amount of coastal sand is driven landwards forming marine dunes.

Coastline of Submergence

Ria coasts: Formed in upland coastal regions where the mountains run in right angles to the sea where the lower valley is submerged due to deglaciation.

Fiord coasts: Submerged U-shaped glacial troughs.

Dalmatian coasts: Longitudinal coasts where mountains run parallel to the coast.

Estuarine coasts: In submerged lowlands, the mouths of rivers are drowned so those funnel-shaped estuaries are formed.

Coastline of Emergence

Uplifted lowland coast: Smooth, gently sloping coastal lowland is formed with shallow lagoons, salt-marshes and mudflats.

Emergent upland coast: Faulting or earth movement thrust up coastal plateau so that whole region is raised, with consequent emergent features such as a steep cliff, deep off-shore waters etc.

Top Mineral Producer in India (State-wise) and other Countries

Mineral	Type	Mines	Top Producers (States)	Top Producers (Countries)	Top Reserves (States)
IRON ORE	Metallic	Barabil – Koira Valley(Orissa) Bailadila Mine (Chattisgarh) Dalli-Rajhara(CH) – the largest mine in India	1. Orissa 2. Chattisgarh 3. Karnataka	1. Australia 2. Brazil 3. China 4. India	1. Orissa 2. Jharkhand 3. Chattisgarh
MANGANESE	Metallic	Nagpur-Bhandara Region (Maharashtra) Gondite Mines, Khondolite deposits (Orissa)	1. Madhya Pradesh 2. Maharashtra	1. China 2. Gabon 3. South Africa 5. India	1. Orissa 2. Karnataka 3. Madhya Pradesh
CHROMITE	Metallic	Sukinda Valley (Orissa) Hasan Region (Karnataka)	1. Orissa 2. Karnataka 3. Andhra Pradesh	1.South Africa 2.India 3.Russia	1. Sukinda Valley (OR) 2. Guntur Region (AP)
NICKEL	Metallic	Sukinda Valley (Orissa) Singhbhum Region (Jharkhand)	1. Orissa 2. Jharkhand	1. Phillippines 2. Russia 3. Canada	1. Orissa 2. Jharkhand 3. Karnataka

COBALT	Metallic	Singhbhum Region(Jharkhand) Kendujhar (Orissa) Tuensang (Nagaland)	1. Jharkhand 2. Orissa 3. Nagaland	1.Democratic Republic of Congo 2. China 3. Canada	
BAUXITE	Metallic	Balangir(Orissa) Koraput (Orissa) Gumla(Jharkhand) Shahdol (Madhya Pradesh)	1. Orissa 2. Gujarat	1. Australia 2. China, 3. Brazil	1. Junagarh (GJ) 2. Durg (CH)
COPPER	Metallic	Malanjkhand Belt (MP) Khetri Belt(Rajasthan) Kho-Dariba(Rajasthan)	1. Madhya Pradesh 2. Rajasthan 3. Jharkhand	1. Chile 2. China 3. Peru	1. Rajasthan 2. MP 3. Jharkhand
GOLD	Metallic	Kolar Gold Field (Karnataka) Hutti Gold Field (Karnataka) Ramagiri Mines (Andhra Pradesh) Sunarnarekha Sands (Jharkhand)	1. Karnataka 2. Andhra Pradesh	1. China 2. USA 3. South Africa	1. Bihar 2. Rajasthan 3. Karnataka
SILVER	Metallic	Zawar Mines (Rajasthan) Tundoo Mines (Jharkhand) Kolar Gold Fields (Karnataka)	1. Rajasthan 2. Karnataka	1. Mexico 2. Peru 3. China	1. Rajasthan 2. Jharkhand
LEAD	Metallic	Rampura Aghucha (Rajasthan) Sindesar Mines (Rajasthan)	1. Rajasthan 2. Andhra Pradesh 3. MP	1. China 2. Australia 3. USA	1. Rajasthan 2. Madhya Pradesh
TIN	Metallic	Dantewada (Chhattisgarh)	Chhattisgarh (only state in India)	1. China 2. Indonesia 3. Peru	Chhattisgarh
MAGNESIUM	Metallic	Chalk Hills (Tamilnadu) Almora (Uttarakhand)	1. Tamil Nadu 2. Uttarakhand 3. Karnataka	1. China 2. Russia 3. Turkey	1. Tamil Nadu 2. Karnataka
LIMESTONE	Non-Metallic	Jabalpur (Madhya Pradesh) Satna (Madhya Pradesh) Cuddapah (AP)	1. Rajasthan 2. Madhya Pradesh	1. China 2. India	1. Andhra Pradesh 2. Rajasthan 3. Gujarat
MICA	Non-Metallic	Gudur Mines (Aandhra Pradesh) Aravalis (RaJasthan) Koderma (Jharkhand)	1. Andhra Pradesh 2. Rajasthan 3. Orissa	1. India 2. Russia	

DOLOMITE	Non-Metallic	Bastar, Raigarh (Chhattisgarh) Birmitrapur (Orissa) Khammam Region (Aandhra Pradesh)	1. Chhattisgarh 2. Andhra Pradesh	1. India	1. Chhattisgarh 2. Orissa
ASBESTOS	Non-Metallic	Pali (Rajasthan) – largest mine Cuddapah (Andhra Pradesh)	1. Rajasthan 2. Andhra Pradesh 3. karnataka	1. Russia 2. China	1. Rajasthan 2. Andhra Pradesh
GYPSUM	Non-Metallic	Jodhpur, Bikaner, Jaisalmer-Rajasthan	1. Rajasthan 2. Tamil Nadu 3. Gujarat	1. China 2. USA 3. Iran	1. Rajasthan 2.Tamil Nadu 3. J & K
DIAMOND	Non-Metallic	Majhgawan Panna Mines (MP) – only active diamond mine in India	1. MP – only diamond producing state	1. Russia 2. Bostwana 3. Democratic Republic of Congo	
COAL	Non-Metallic	Korba Coalfield, Birampur-Chhattisgarh Jharia Coalfield, Bokaro Coalfield, Girdih –(Jharkhand) Talcher field – (Orissa) Singaruli coalfields (Chhattisgarh) - Largest	1. Chhattisgarh 2. Jharkhand 3. Orissa	1. China 2. USA 3. India	1. Jharkhand 2. Orissa 3. Chhattisgarh
PETROLEUM	Non-Metallic	Lunej, Ankleshwar, Kalol–Gujarat Mumbai high Maharashtra – largest oil field Digboi–Assam–Oldest oil filed in India	1. Maharastra 2. Gujarat	1. Russia 2. Saudi Arabia 3. USA	1. Gujarat 2. Maharastra
URANIUM	Atomic	Jaduguda mine (Jharkhand) Tummalapalle mine (Andhra Pradesh) – largest mine Domiasiat Mine (Meghalaya)	1. Andhra Pradesh 2. Jharkhand 3. Karnataka	1. Kazakhstan 2. Canada 3. Australia	1. Jharkhand 2. Andhra Pradesh 3. Karnataka
THORIUM	Atomic		1. Kerala 2. Jharkhand 3. Bihar	1. Australia 2. USA 3. India	1. Andhra Pradesh 2. Tamil Nadu 3. Kerala

List of Major Straits of the World

Sr. No.	Strait Name	Remarks
1	PALK STRAIT	It connects the Bay of Bengal with the Gulf of Mannar.
2	STRAIT OF GIBRALTAR	It connects the Atlantic Ocean with the Mediterranean Sea and separates Gibraltar and Spain in the north from Morocco in the south.
3	DUNCAN PASSAGE	It is a strait separating Rutland to the North and Little Andaman to the south.
4	NINE DEGREE CHANNEL	This Channel connects Laccadive Islands of Kalapeni, Suheli Par & Maliku Atoll.
5	TEN DEGREE CHANNEL	It separates the Andaman Islands from the Nicobar Islands in the Bay of Bengal.
6	STRAIT OF HORMUZ	It lies between UAE and Oman on the south-west and Iran on the north-east. It connects the Persian Gulf with the Gulf of Oman. It is strategically very important as it controls the oil trade from the Gulf countries.
7	STRAIT OF BAB-EL-MANDAB	It connects the Red Sea with the Gulf of Aden and separates Asia from Africa.
8	MALACCA STRAIT	It separates Peninsular Malaysia from Sumatra island of Indonesia. It connects the Pacific Ocean to the Indian Ocean. It provides a shorter route from the Andaman Sea to the South China Sea and therefore is the busiest waterway of the world.
9	SUNDA STRAIT	It connects the Java Sea to the Indian Ocean and separates Java island of Indonesia from its Sumatra island.
10	BERING STRAIT	It separates Russia and Alaska and connects the East Siberian Sea in the Arctic Ocean with the Bering Sea in the Pacific Ocean.

11	ORANTO STRAIT	Connect the Adriatic Sea with the Ionian Sea and separates Italy from Albania.
12	BOSPHORUS STRAIT	Connects the Black Sea with the Sea of Marmara. It is the world's narrowest navigable strait.
13	DARDANELLES STRAIT	It lies between the Asian Turkey and European Turkey and connects the Aegean Sea with the Sea of Marmara. It is a vital link of transportation between the Black Sea and the Mediterranean Sea.
14	LA PAROUSES STRAIT	It lies between the Sakhalin island and Hokkaido island of Japan and connects the Sea of Okhotsk with the Sea of Japan.
15	STRAIT OF TARTARY/TARTAR	It separates Russian Island Sakhalin from Mainland Asia. It connects the Sea of Okhotsk in the north to the Sea of Japan in the south.
16	TSUGARU STRAIT	It lies between Hokkaido and Honshu in northern Japan and connects the Sea of Japan to the Pacific Ocean.
17	TAIWAN STRAIT OR FORMOSA STRAIT	It lies between Taiwan (Republic of China) and Mailand China (People's Republic of China). It connects South China Sea with the East China Sea.
18	MOZAMBIQUE STRAIT	It lies in the Indian Ocean between Mozambique from Madagascar.
19	YUCATAN STRAIT	It lies between Mexico and Cuba and connects the Gulf of Mexico with the Caribbean Sea.
20	FLORIDA STRAIT	It lies between the Florida state of the USA and Cuba.
21	HUDSON STRAIT	It connects the Hudson Bay (Canada) with the Labrador Sea.
22	DAVIS STRAIT	It connects the Baffin Bay with the Atlantic Ocean.

23	COOK STRAIT	It lies between the North and the South islands of New Zealand and connects the Tasman Sea with the South Pacific Ocean.
24	BASS STRAIT	It separates Tasmania from the Australian mainland.
25	TORRES STRAIT	It lies in the Pacific Ocean, between Cape York Peninsula of Australia and Papua New Guinea
26	MAGELLAN STRAIT	It separates Mainland South America from Tierra Del Fuego (an archipelago off the southern-most tip of the South American Mainland)
27	DOVER STRAIT	It lies in the narrowest part of the English Channel, connecting it with the North Sea. It separates Britain from Continental Europe.
28	NORTH CHANNEL	It separates Ireland from Scotland and connects the Irish Sea with the Atlantic Ocean.

Climatology: Classification of Clouds

Types of Clouds

Various kinds of clouds exist. They vary in size, shape, or colour from each other.

They are basically classified into 2 types:

Based on their shape

Based on their altitude

Clouds on the basis of there shapes:

Cirrus

Cumulus

Stratus

Cirrus Clouds:

Cirrus is an atmospheric cloud generally characterized by thin, wispy strands. It derives its name from the Latin word cirrus, which means a ringlet or curling lock of hair.

Cumulus Clouds:

Cumulus clouds have flat bases and are as "puffy", "cotton-like" or "fluffy" in appearance.

Their name derives from the Latin cumulo-, meaning heap or pile.

Stratus Clouds:

Stratus clouds have a uniform foundation of horizontal layers. The word "stratus" is derived from the Latin prefix "strato-", meaning "layer".

The term stratus represents flat, hazy, featureless clouds of low altitude varying in colour from dark grey to white.

Clouds on the basis of their altitude:

Low Clouds

Middle Clouds

High Clouds

Low Clouds

They are situated below 6,500 feet or 2,000 meters.

Low clouds are also known as Stratus Clouds.

They appear dense, dark, and rainy (or snowy) and can also be cottony white clumps interspersed with blue sky.

Middle Clouds

They develop between 6,500 feet and cirrus level or from 2000 to 6000 metres.

They are known as "Alto" clouds.

They frequently indicate an approaching storm.

They may sometimes produce Virga, which is a type of rain or snow that does not reach the ground.

High Clouds

They are situated above 6000 metres or 20,000 feet.

They are widely known as Cirrus Clouds.

They usually have a thin structure and are made up of ice.

They do not produce rain and hence indicate fair weather.

Climate and its Factors

The Atmosphere

Gases and vapours form the atmosphere. When they receive solar energy, it gives rise to 'Climate'. Thus, the climate is defined as the *average atmospheric conditions of an area over a considerable period of time*. When this consideration of atmospheric condition is about certain place at certain time then it is called weather.

There are five layers of the atmosphere. Those are:

Elements of climate

Temperature

Precipitation

Rainfall

Pressure and planetary winds

Land and sea breezes

Cyclonic activity

Temperature

Temperature decides the following factors-

Amount of water vapour, the moisture-carrying capacity of the air.

Rate of evaporation and condensation, governing degree of stability of the atmosphere.

Relative humidity affecting nature and types of cloud formation and precipitation.

Factors that affect temperature:

Latitude – Temperature diminishes from equatorial regions to poles because of the earth's inclination. Direct rays travel a shorter distance and heat up smaller surface whereas oblique rays travel a longer distance and heat up large area.

Altitude – Temperature of air decreases with increasing height above sea level. This rate of decrease in temperature with increasing altitude is called as 'Lapse rate'. This rate is not constant. The lapse rate is greater by day than at night, greater on elevated highlands than on level plains.

Continentality – Land surface gets heated more quickly than water surface because of the higher specific heat of the water. (Specific heat is energy required to raise the temperature of giving volume by 1 degree Fahrenheit)

Ocean currents and winds – Both transport their heat or coldness into adjacent regions. On-shore winds carry ocean currents landwards thereby affecting the temperature of an area. Local winds also change temperature according to their own temperature.

Slope, shelter and aspect – Steep slope show a rapid change in temperature than a gentle slope. Sheltered slope (north facing) has less temperature than sunny slope (south-facing).

Natural vegetation and soil – Thick vegetation has less temperature than open spaces. Colour of soil (light or dark) give rise to slight variation in temperature.

Precipitation

When condensation occurs at ground level, haze, mist or fog are formed.

When condensation of water vapour takes place in the atmosphere at a temperature below freezing point, snowfall occurs.

When moist air ascends rapidly cooler layers of the atmosphere, water droplets freeze and fall to the earth as hail or hailstone.

Frozen raindrops melt and refreeze forming sleet.

Rainfall

Convectional rain: When earth surface gets heated by conduction, it comes into contact with air. This heated air contains the capacity to hold moisture. This air rises up and cools down. When saturation point is reached, rainfall occurs. In regions with high relative humidity, this moisture carrying capacity is huge, resulting in torrential downpours. Convection current goes through the process of expansion, cooling, saturation and finally condensation.

Orographic rain: When moist air ascends the windward side of a mountain barrier, it cools down until complete saturation and orographic clouds form. Precipitation occurs on the upwind side. Leeward side acts as a rain shadow area where usually low precipitation occurs.

Cyclonic or frontal rain: When air masses with different temperatures and different physical properties meet, warmer air rises over cooler air. In ascent, air expands and cools. Condensation takes place in the form of frontal rainfall.

Pressure and planetary winds

World pressure belts: Circulation of air over the surface of the earth caused by the difference in pressure forms pressure belts. Those are:

Equatorial Low-Pressure Belt- Between 5 degrees north and south, also called as Doldrums. It is the zone of wind convergence.

Sub-Tropical High-Pressure Belt- Between 30 degrees north and south, also referred to as Horse Latitudes. It is the zone of wind divergence, with cyclonic activity.

Temperate Low-Pressure Belt- Between 60 degrees north and south, also called as sub-polar low-pressure areas. It is the zone of wind convergence, with anticyclonic activity.

Polar High-Pressure Belt- At 90 degrees north and south. Here the temperature is permanently low.
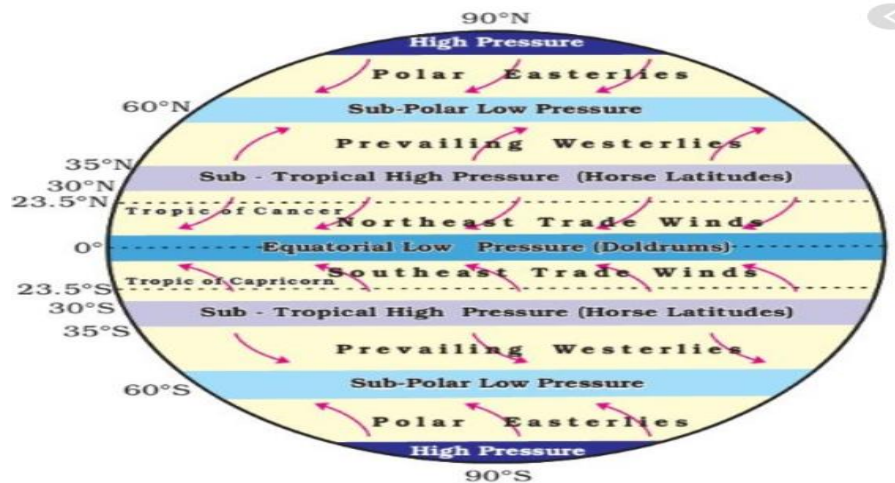
Planetary winds

Within the pattern of permanent pressure belts, winds blow from high pressure to low-pressure belts, as planetary winds. Trade winds, westerlies and polar easterlies flow under the effect of Coriolis force.

Land and sea breezes

Differential heating of land and sea is basic factor responsible for monsoon. Land breeze forms a diurnal rhythm and sea breeze form a seasonal rhythm.

Cyclonic activity

Tropical cyclones (as named in the Indian ocean), typhoons in China sea (tropical latitudes), hurricanes in West Indian island in Caribbean and tornadoes in Guinea lands of West Africa and southern USA and willy-willies in north-western Australia occurs.

Important facts of Census 2011

Census 2011

Census is a process of collecting, compiling, analyzing, evaluating, publishing and disseminating statistical data regarding the population of a country.

It covers demographic, social and economic data.

It is conducted every 10 years.

It started in 1871.

Census 2011 data was released on 31st March 2011 by Union Home Secretary and RGCCI (Registrar General and Census Commissioner of India) of India.

Census 2011 was the 15th census of India & 7th census after Independence.

The motto of census 2011 was "Our Census, Our future".

Registrar General & Census Commissioner under whom census 2011 was conducted – C.Chandra Mouli

Present Registrar General & Census Commissioner – Shri Sailesh,

Total Population – 1,210,569,573 (1.21 Billion)

India in 2nd rank in the population with 17.64%. decadal growth.

Increase in population during 2001 – 2011 is 181 Million

Census 2011 was held in two phases:

Houselisting & Housing Census
(April to September 2010)

Population Enumeration
(9th to 28th February 2011)

Number of Administrative Units in Census 2011
States/UTs 35
Districts 640
Sub-districts 5,924
Towns 7,936
Villages 6.41 lakh

Facts about districts

Thane district of Maharashtra is the most populated district of India.

Dibang Valley of Arunachal Pradesh is the least populated.

Kurung Kumey of Arunachal Pradesh registered highest population growth rate of 111.01 Percent.

Longleng district of Nagaland registered negative population growth rate of (-)58.39.

Mahe district of Puducherry has the highest sex ratio of 1176 females per 1000 males.

Daman district has the lowest sex ratio of 533 females per 1000 males.

Serchhip district of Mizoram has the highest literacy rate of 98.76 Percent.

Alirajpur of MP is the least literate district of India with the figure of 37.22 Percent only.

North East Delhi has the highest density with the figure of 37346 people per square kilometre.

Dibang Valley has the least density of 1 person per sq. km

Facts about cities

Mumbai city of Maharashtra is the most populated city in India.

Kapurthala city of Punjab is the least populated.

Kozhikode of Kerala has the highest sex ratio of 1093 females per 1000 males.

Bhiwandi city of Maharashtra has the lowest sex ratio of 709 females per 1000 males.

Aizawl city of Mizoram has the highest literacy rate of 98.76 Percent.

Sambhal of UP is the least literate city in India with the figure of 48 Percent only.

North East Delhi has the highest density with the figure of 37346 people per square kilometre.

FEATURE	INDIA	TOP 3 STATES	BOTTOM 3 STATE	OTHER FACT
Average annual growth rate	1.64 %	1. Meghalaya (2.49 %) 2. Arunachal Pradesh (2.3 %) 3. Bihar (2.26 %)	1. Goa (.79%) 2. Andhra Pradesh (1.07%) 3. Sikkim (1.17%)	During 2001-2011, as many as 25 States/UTs with a share of about 85% of the country's population registered an annual growth rate of Less than 2%.

Decadal growth rate	17.60%	1. Meghalaya (27.8 %) 2. Arunachal Pradesh (25.9 %) 3. Bihar (25.1 %)	1. Nagaland (-0.5 %) 2. Kerala (4.9 %) 3. Goa (8.2 %)	Nagaland is only the state that has negative growth rate. Districts with highest and lowest decadal growth rate were Kurung Kumey and Longleng respectively.
Population Density	382	1. Bihar (1,106 per sq km) 2. West Bengal (1030 per sq km) 3. Kerala (859 per sq km)	1. Arunachal Pradesh (17 per sq km) 2. Mizoram (52 per sq km) 3. J&K (56 per sq km)	Top 2 Districts: North East (NCT of Delhi) and Chennai Bottom 2 district: Dibang Valley and Samba.
Population (in terms of numbers)	Total - 1210.19 million Males – 623.7 million (51.54%) Females – 586.46 million (48.46%) Rural population– 833 million Urban population -377 million	Total 1. Uttar Pradesh (19.9 million, 16.5%) 2. Maharashtra (11 million - 9.28%) 3. Bihar (10 million - 8.6%)	Total 1. Sikkim (6.07 lakh - 0.05%) 2. Mizoram (10.9 lakh - 0.09 %) 3. Arunachal Pradesh (13.8 lakh - 0.11%)	Top Metros 1. Mumbai (18,394,912) 2. Delhi 3. Chennai The population of India is almost equal to the combined population of U.S.A., Indonesia, Brazil, Pakistan, Bangladesh and Japan put together (1214.3 million)! Top 2 Districts: Thane(Maharashtra) and North Twenty Four Parganas (West Bengal) Bottom 2 Districts: Dibang Valley and Anjaw (Arunachal Pradesh).
Sex ratio	940	1. Kerala (1084) 2. Tamil Nadu (996) 3. Andhra Pradesh (993)	1. Haryana (879) 2. Jammu and Kashmir (889) 3. Sikkim (890)	Top 2 Districts: Mahe and Almora Bottom 2 Districts: Daman and Leh
Fertility rate (2013)	2.3	1. Bihar (3.4) 2. U.P. (3.17) 3. Meghalaya (3.1)	1. Sikkim (1.45) 2. West Bengal (1.64) 3. Tamil Nadu (1.7)	

Literacy Rate	Overall -74% Male – 82.14% Female -65.46	Overall 1. Kerala (93.9%) 2. Mizoram (91.6%) 3. Tripura (87.8%)	Overall 1. Bihar (63.80%) 2. Arunachal Pradesh (67%) 3. Rajasthan (67.11%)	Highest literacy rate according to Religion – Jain (94 %) > Christian (80%) > Buddhist (74%) Top 2 Districts: Serchhip and Aizwal Bottom 2 Districts Alirajpur and Bijapur
Work participation rate	Overall (39 %) ● Male (45 %) ● Female (14 %)	1. Mizoram	1. Kerala 2. Goa	
Tribe	550 tribes ● 8.2% of the total Population of India ● 10 million population	Population wise 1. MP (1.5 million) 2. Maharashtra (1.0 million) 3. Gujrat (.89 million) Tribal density wise 1. Mizoram 2. Nagaland 3. Meghalaya	Population wise 1. Punjab (zero) 2. Haryana (zero) 3. Goa (32,000) Tribal density wise 1. Punjab (zero) 2. Haryana (zero)	
State (Area)	32.87 Lakh km2	1. Rajasthan (3.42 Lakh km2) 2. M.P. (3.08 Lakh km2) 3. Maharashtra (3.07 Lakh km2)	1. Goa (3702 km2) 2. Sikkim (7096 km2) 3. Tripura (10,486 km2)	
Urbanization		1. Goa (62%) 2. Mizoram (52%) 3. Tamil Nadu (48%)	1. Himachal Pradesh (10%) 2. Bihar (10.29%) 3. Assam (14%)	Maharashtra has highest no. of cities – 18 in numbers
Child sex ratio	914	1. Mizoram (971) 2. Meghalaya (970) 3. Chhattisgarh (964)	1. Haryana (830) 2. Punjab (846) 3. J&K (859)	The Child Sex Ratio at India level (914) is lowest since Independence

| Per Capita Net State Domestic Product at Current Prices (2011-12) | 60972 Rs. | 1. Goa (1,92,000 Rs) 2. Haryana (1,09,000 Rs) 3. Tamil Nadu (84,000 Rs) | 1. Bihar (24,000 Rs) 2. U.P. (29,000 Rs) 3. Jharkhand (32,000 Rs) | |

Age structure	Adolescent (36.5 %) Adult (56.7%) Old (6.8 %)
Major language	Hindi (40%) Bengali (8%) Telugu (7.8%)
	Language family 1. Indo – European (Aryan – 73%) 2. Dravidian (20%) 3. Austric (Nishad - 1.3%)
Religion- Percentage of population	Hindu 96.63 crore (79.8 %) Muslim 17.22 crore (14.2%) Christian 2.78 crore (2.3%) Sikh 2.08 crore (1.7%) Buddhist 0.84 crore (0.7%) Jain 0.45 crore (0.4%)	Hindu, Muslim, Christian, and Sikhs are in majority in 28,4,2,1 state respectively.

INDIAN ECONOMY

List of 5 Year Plans of Indian Economy

1. Visvesvaraya Plan

The era of economic planning in India started with Visvesvaraya's ten-year Plan.

Sir M. Visvesvaraya published a book titled "Planned Economy in India" in 1934 wherein he presented a draft to double the national income in a decade.

He proposed to shift the labor from the agrarian set up to the industries thereby advocating for democratic capitalism (similar to the USA) with emphasis on industrialization. However, there was no follow up of this plan in British Government, it successfully stirred an urge for national planning among the educated citizens of the country.

2. National Planning Committee (NPC)

It was the first attempt to develop a national plan for India emanated in 1938 with the set-up of NPC under the chairmanship of Jawahar Lal Nehru.

However, because of the commencement of World War II, the reports of the committee could not be prepared. The papers finally came out after independence in 1948-49.

3. Bombay Plan

Eight leading industrialists and technocrats formulated a draft titled "A Brief Memorandum Outlining a Plan of Economic Development for India" under the editorship of Purushottamdas Thakurdas in 1944.

This draft is known as the 'Bombay Plan'.

The basic objectives of the plan were doubling the output of the agricultural sector and a five-fold growth in the industrial sector in 15 years.

A key principle of the Bombay Plan was that the economy could not grow without government intervention and regulation.

Officially the plan was never accepted, however, its ideas were replicated in future economic plans.

4. People's Plan

People's plan was drafted by M. N. Roy, the communist leader, on behalf of the Post- War Reconstruction Committee of the Indian Federation of Lahore in 1944.

It was based on 'Marxist Socialism' and gave primacy to agriculture. It advocated for the nationalization of agriculture and all production activities.

5. Gandhian Plan

The Gandhian Plan was drafted by S. N. Aggarwal, the principal of Wardha Commercial College in 1944.

The plan articulated a 'decentralized economic structure' for India with 'self-contained villages'.

Unlike the NPC and Bombay Plan, the plan laid more emphasis on agriculture.

And wherever industrialization was talked about, it stressed upon promoting cottage and village level industries.

6. Sarvodaya Plan

This plan was drafted by Jai Prakash Narayan in 1950.

It was inspired by Gandhi Plan and Vinoba Bhave's principles of self-reliance.

It laid stressed upon agriculture as well as small and cotton industries.

It advocated self-sufficiency by curtailing the use of foreign technology and implementing land reforms and decentralized participatory planning.

7. Planning Commission

After independence, the Economic Programme Committee (EPC) was formed by the All India Congress Committee.

Pandit J.L. Nehru was its chairman.

In 1948, this committee recommended the formation of the planning commission.

It was an extra-constitutional body, charged with the responsibility of formulating five-year plans.

8. National Development Council (NDC)

It was founded on August 6, 1952. It was presided over by the Prime Minister.

It is the apex body for decision creating and deliberations on development matters in India.

It gives the final approval to the Five-Year Plan of India.

Summary of First three Five-year plans

Plans	Time frame	Objective and Remarks
First Plan	1951-1956	· Focus: agriculture, price stability, and infrastructure. · It was based on Harrod Domer model (growth rate of the economy depends upon investment rate and productivity of capital in a positive manner).
Second Plan (target growth: 4.5% Actual growth: 4.27%)	1956-1961	· Focus: rapid industrialization · It was also known as Mahalanobis Plan (advocated planning shift from agriculture to industries). · It laid emphasis on heavy and basic industries. · Also advocated import substitution; export pessimism and overvalue exchanges.
Third Plan (Target growth: 5.6% Actual growth: 2.84%)	1961-1966	· Focus: heavy and basic industry which was then shifted to agriculture (PL480). · Due to two wars- war with China, 1962 and war with Pakistan, 1965 and severe drought of 1965-66; it failed on many fronts.

1966-67, 1967-68 and 1968-69 were annual plans. Discontinuation of five-year planning for three consecutive years is regarded as plan holiday.

Due to the prevailing food crisis, annual plans were primarily focused on agriculture.

During these plans, the foundation of the green revolution was laid down which included widespread use of HYV (high yielding varieties) seeds, chemical fertilizers and extensive exploitation of irrigation potentials. During these years, the shocks of a third-year plan were absorbed and a five-year planning system was resumed from 1969.

Summary of IV to XII FYPS

Plans	Time Frame	Objective and Remarks
Fourth Plan (Target Growth: 5.7% Actual Growth: 3.30%)	1969-1974	· Focus: Self-sufficiency in food and self-reliance · Objective was to improve domestic food production. · It was aimed at saying no to foreign aid. · First oil shock of 1973, made remittances a major source of foreign exchange reserve.
Fifth Plan (Target Growth: 4.4% Actual Growth: 4.8%)	1974-1979	· Focus: 'removal of poverty' and 'attainment of self-reliance'. · It was drafted and launched by D. D. Dhar. · This plan was terminated in the year 1978. · There were rolling plans for the year 1978-1979 and 1979-1980.
Sixth Plan (Target Growth: 5.2% Actual Growth: 5.4%)	1980-1985	· Focus: poverty eradication and productivity enhancement · Stressed upon modernization of technology. · For the first time, the frontal attack was made on poverty by adopting ambitious poverty eradication programmes (trickle down strategy was discarded).
Seventh Plan (Target Growth: 5.0% Actual Growth: 6.01%)	1985-1990	· Focus: productivity and work i.e. employment generation. · For the first time, the private sector got priority over the public sector. · Due to volatile political situations at the center, two annual plans were commenced for the year 1990-1991 and 1991-1992.
Eighth Plan (Target Growth: 5.6% Actual Growth: 6.8%)	1992-1997	· Focus: 'Plan with a human face' i.e. human resource development. · During this plan, new economic policy was launched with LPG (Liberalization, Privatization, and Globalization). · It gave primacy to human capital and the private sector.

Ninth Plan (Target Growth: 7.1% Actual Growth: 6.8%)	1997-2002	· Focus: 'Growth with justice and equity' · It stressed upon four dimensions: quality of life; generation of productive employment; regional balance and self-reliance.
Tenth Plan (Target Growth: 8.1% Actual Growth: 7.7%)	2002-2007	It was aimed to double the per capita income of India in the next 10 years. And to reduce the poverty ratio by 15% by 2012.
Eleventh Plan (Target Growth: 8.1% Actual Growth: 7.9%)	2007-2012	Focus: Faster growth and more inclusive growth.
Twelfth Plan (Target Growth: 8%)	2012-2017	Focus: Faster, more inclusive growth and sustainable growth.

NITI Aayog

NITI Aayog, the National Institution for Transforming India, is a policy think tank of the Government of India established in 2015.

It replaced the Planning Commission.

It has a dual objective of achieving sustainable development goals and to enhance cooperative federalism with 'bottom to top' approach. Its initiatives include

(a) Action Plan- 3 Years

(b) Strategy Plan- 7 Years

(c) Vision Plan- 15

National Income

About National Income

National Income is usually defined as the total Value of all final goods and services produced in a country in a particular period (Generally one year).

Following are the measures of National Income-

(A) GDP (Gross Domestic Product)

(B) GNP (Gross National Product)

(C) NNP (Net National Product)

(D) PI (Personal Income)

(E) DPI (Disposable Personal Income)

(A) GDP (Gross Domestic Product)-

GDP is the total value of all final goods and services produced within the geographical boundary of the country during a particular period (Generally one year).

In this, we consider all goods/ services, produced by both resident citizens and foreign nationals who reside within the boundary of that country.

(B) GNP (Gross National Product)-

GNP is defined as the total value of the final goods and services produced by Indians in India as well as abroad during a particular period.

GNP includes the value of goods produced by resident and non-resident citizens of a country whereas the income of foreigners who reside in India is excluded.

(C) Net National Product (NNP)-

It is calculated by deducting depreciation from Gross National Product (GNP)

NNP = GNP – Depreciation

Note-

Factor Cost- Cost incurred to produce goods and service

Market price- For calculating market price we add Indirect taxes and deduct subsidies given by the government in Factor cost.

Market Price = Factor cost + Indirect Taxes – Subsidy

NNP at factor cost = NNP at market price – Indirect taxes + subsidy

Usually, we called NNP at factor cost as National Income.

Likewise, NNP at factor cost, we can also calculate GDP at factor cost.

(D) Personal income-

It is the sum of all the income received by the people of the country in one year. Personal Income = National Income + Transfer payments – Undisclosed profits of corporate + Payment for social security provisions

Transfer Payments are the payments that are not against any productive work. (Example- Old Age Pension, Unemployment compensation etc.)

Social Security Provisions- Payment made by employees towards PF, Insurance etc.

(E) Disposable Personal Income-

Income available to individuals after deducting direct taxes.

Disposable Personal Income = Personal Income – Direct Taxes

Real Income and Nominal Income-

If we use base year price for calculating National Income, this is called the real income.

If we use a particular year (current year) price for calculating National Income, this income is called the Nominal income.

GDP Deflator-

Used to calculate overall price rise.

Estimation of National Income in India

In 1868, Dadabhai Naoroji wrote a book 'Poverty and Un British Rule in India'. It was the first attempt at the calculation of National Income.

The first person to estimate National Income scientifically was Dr V. K. R. V. Rao who estimated national income for the period 1925-29.

After Independence National Income committee was formed in 1949 under the chairmanship of P.C. Mahalanobis.

After some years the Central Statistical Organisation (CSO) was formed.

Various Price Indices in India
Price Indices in India
Various weighted price indices are calculated in India.
These are-
1. Wholesale Price Index (WPI)
2. Old Consumer Price Index
(a) Consumer Price Index for Industrial Workers (CPI- IW)
(b) Consumer Price Index for Urban Non- Manual Employees (CPI- UNME)
(c) Consumer Price Index for Agriculture Labourers (CPI-AL)
(d) Consumer Price Index for Rural Labourers (CPI- RL)
3. New Consumer Price Index (Introduced in February 2011)
(a) CPI (Rural)
(b) CPI (Urban)
(c) CPI (Combined)
4. Consumer Food Price Index
Till April 2014, the Inflation rate was measured with the help of WPI (Wholesale Price Index).
Currently, in India inflation rate is measured with the help of Consumer Price Index- combined.
1. Wholesale Price Index
   It measures the change in the price of commodities traded in the wholesale market.
   It is also known as headline inflation.
   Current base year- 2011-12.
   The index basket of the current series has a total of 697 items (117 items for Primary Articles, 16 items
      for Fuel & Power and 564 items for Manufactured Products.)
   Published by- Economic Advisor, Ministry of Commerce & Industry.
2. Old Consumer Price Index
(a) Consumer Price Index for Industrial Workers (CPI- IW)
   It measures the change in the price of commodities consumed by industrial workers.
   Current base year- 2001
   Published by- Labour Bureau
(b) Consumer Price Index for Urban Non- Manual Employees (CPI- UNME)
   It measures the change in the price of commodities consumed by Non- Manual Employees.
   Published by- CSO (Central Statistics Office, Ministry of Statistics)
   It has been discontinued.
(c) Consumer Price Index for Agriculture Labourers (CPI-AL)
   It measures the change in the price of commodities consumed by agriculture labourers.
   It is a subset of CPI-RL.
   Current base year- 1986-87
   Published by- Labour Bureau
   Used for revising minimum wages
(d) Consumer Price Index for Rural Labourers (CPI- RL)
   It measures the change in the price of commodities consumed by rural labourers (include agriculture
      labourers, labourers of village and cottage industries).
   Current base year- 1986-87
   Published by- Labour Bureau
   Used for revising minimum wages.
3. New Consumer Price Index (Introduced in February 2011)
(a) CPI (Rural)-
   Current base year- 2012

Published by- CSO (Central Statistics Office, Ministry of Statistics)

(b) CPI (Urban)-

Current base year- 2012

Published by- CSO

(c) CPI (Combined)-

Current base year- 2012

Published by- CSO

Currently, in India inflation rate is measured with the help of Consumer Price Index- combined.

4. Consumer Food Price Index-

It is a measure of change in retail prices of food items consumed by the people.

Current base year- 2012

Published by- CSO

GDP Deflator

Used to calculate overall price rise.

Known as implicit price deflator.

GDP Deflator= (Nominal GDP/Real GDP) $\times$ 100

Here Real GDP- GDP calculated at constant Price

Nominal GDP- GDP calculated at current Price

The GDP deflator is the most accurate because it covers all goods and services produced in the economy. The other indices (WPI and CPI) derive from price quotations for select commodity baskets.

The government does not use it because GDP deflator data comes quarterly (not weekly/monthly basis).

RBI and Monetary Policy

RBI (Reserve Bank of India)

RBI was established in April 1935 under Reserve Bank of India, 1934.

On the recommendation of Hilton-Young Commission.

Central Bank of India which was nationalized in 1949.

Central office initial was established in Calcutta and later moved to Mumbai in 1937.

Official Directors- Governors and not more than four deputy governors.

RBI performs his function under the guidance of the Board of financial supervision.

Other facts related to Reserve Bank of India

The first governor of RBI- Sir Osborne Smith

The first governor of RBI after nationalization- C. D. Deshmukh

First women Deputy Governor of RBI -K.J.Udeshi.

RBI Emblem: Tiger and Palm tree

What is Monetary Policy?

The policy made by the central bank (Reserve Bank of India) to control the money supply in the economy.

MPC (Monetary Policy Committee)

The Monetary Policy Committee of India is a committee of the Reserve Bank of India that is responsible for fixing the benchmark interest rate in India.

Section 45ZB of the amended RBI Act, 1934 provides for an empowered six-member monetary policy committee (MPC) to be constituted by the Central Government to determine the interest rate that is required to achieve the inflation target.

The MPC is required to meet at least four times in a year.

Six-membered MPC is headed by RBI governor Urjit Patel.

The Members of the Monetary Policy Committee appointed by the Central Government shall hold office for a period of four years.

Liquidity Adjustment Facility (LAF)

Liquidity adjustment facilities (LAF) is also a tool used by RBI to control the short-term money supply.

Liquidity adjustment facilities (LAF) has two instruments namely Repo rate and Reverse Repo Rate.

Repo Rate: The interest rate at which the Reserve Bank provides loans to commercial banks by mortgaging their dated government securities and treasury bills.

Reverse Repo Rate: The interest rate at which the Reserve Bank borrows from commercial banks by mortgaging its dated government securities and treasury bills.

While repo rate injects liquidity into the system, the Reverse repo absorbs the liquidity from the system.

Types of Unemployment

Structural Unemployment

Caused by structural change.

Example- technological change, growing population etc.

Frictional Unemployment

When people shift from one job to another and remain unemployed during this interval period.

Cyclical Unemployment (Demand Deficient Unemployment)

When people are thrown out from the job due to a decrease in demand.

Example- recession

Disguised Unemployment

In this type of employment, people are employed but their marginal productivity is zero.

Example- One man is engaged in some agriculture work, his friend joins him but the productivity of both remains same. His friends come under disguised unemployment.

Educated Unemployment

If one educated person is not able to get a suitable job suited to his qualification.

Example- Engineering graduate is getting clerk post instead of engineer post.

Open Unemployment

A condition in which people do not find any work to do.

It includes both skilled and unskilled people.

Under Unemployment

When people obtain work but their efficiency and capability are not utilized at their optimum and they contribute to the production up-to a limited level.

Voluntary Unemployment

In this type of unemployment, jobs are available but individuals want to remain idle.

Example- lazy people, people who have ancestor property do not want to earn.

Natural Unemployment

2 to 3 % unemployment is considered natural and cannot be eliminated.

Chronic Unemployment

Caused due to the long-term unemployment present in the economy.

Seasonal Unemployment

In this type of unemployment, people are unemployed for a few months of the year.

Example- Farmers

Inflation (Types and Effects)

Inflation

The general rise in the price level of goods and services.

It is estimated as the percentage rate of change in price index over the reference time period.

Currently in India inflation rate is measured with the help of the Consumer Price Index- combined (Base year- 2012).

Till April 2014, the Inflation rate was measured with the help of WPI (Wholesale Price Index).

Rate of Inflation= (Current period price index-Reference period price index)/(Reference Period Price Index)×100

Type of Inflation

Based on the rate of rising in Inflation

1. Creeping Inflation

Price rise at the very small rate (< 3 %)

It is considered safe and essential for the economy.

2. Walking or Trotting Inflation

Price rise at moderate rate (3 % < Inflation < 10 %)

Inflation at this rate is a warning signal for the Economy.

3. Running Inflation

Price rise at high rate (10 % < Inflation < 20 %)

It affects the economy adversely.

4. Hyperinflation or Galloping Inflation or Runway Inflation

Price rise at very high rate (20 % < Inflation < 100 %)

This situation brings the total collapse of the Economy.

Based on the causes

Demand Pull Inflation: When Inflation arises due to higher demand for goods and services over the limited supply.

Cost-Push Inflation: When Inflation arises due to higher input cost (Example- raw material, wages etc.) for goods and services over the limited supply.

Other definitions

1. Deflation

It is opposite to Inflation.

Reduction of general level of price in an economy.

In this price index measured is negative.

2. **Stagflation:** When stagnation and inflation coexist in the economy.

3. **Stagnation:** low national income growth and high unemployment.

4. **Disinflation**

When the rate of Inflation is at a slower rate.

Example:

If the Inflation of last month was 4 % and the rate of inflation in the current month is 3 %.

5. **Reflation:**

Deliberate action of government to increase the rate of inflation to redeem the economy from a deflationary situation.

6. **Core Inflation:**

It is a measure of price rise in the economy excluding the price rise of some products (whose price is volatile and temporary in nature.

Measures to control Inflation

1. **Credit control**

It is used by RBI.

2. **Increase in Direct Taxes**

Due to the increase in direct taxes, people have less money available to them and low demand from them leads to a lower price.

3. **Price Control**

By fixing the maximum price limit by authorities.

4. **Trade measures**

Maintain proper supply in the economy by export and import of goods and services.

Poverty in India

Poverty

A condition in which section of society is unable to fulfil its basic necessities of life.

It is of two types-

(a) Absolute Poverty

(b) Relative Poverty

(a) **Absolute Poverty**

In this, we calculate an aggregate value (a figure expressing per capita consumer expenditure) of the minimum quantity of commodities which are necessities of life.

The population whose level of income (or expenditure) is below this aggregate value is Below Poverty Line (BPL).

In this measure of poverty, we expressed the number of poor as a proportion of the total population.

This measure also is known as the headcount ratio.

Example: 13 Percent of People are BPL.

Why we prefer consumption expenditure method instead of income-

In per capita income we cannot separate dependent people (children, senior citizens etc.) who are consuming but not earning. So, for correct data calculation, we prefer the consumption expenditure method instead of income.

(b) **Relative Poverty**

In this type of poverty, a person may be above Below Poverty Line but happens to be poor in comparison with the other person whose income is above his income/consumption.

In this type of poverty calculation, income/consumption distribution of the population in different percentile groups is estimated and compare them.

It provides inequality present among the total population.

Quintile ratio is one of the measures of inequality.

Quintile Income Ration= Average income of richest 20 Percent/ Average income of poorest 20 persons

Poverty estimation in Independent India

(A) Dr. V.M. Dandekar and Nilantha Rath (1968-69)

Fixed desired minimum nutrition = 2250 calories/day

In Rural, money required to purchase this amount of nutrition- 170 Rs. / year

In Urban, money required to purchase this amount of nutrition- 271 Rs. / year

Using this reference, they found that 40 Percent of rural resident and 50 Percent of urban residents were below the below poverty line in 1960-61.

(B) Planning commission expert group

Poverty line concept was first introduced by the planning commission working group of the planning commission in 1962.

(i) Alagh Committee

Chairman- Y K Alagh

Till 1979 poverty estimation was done on the basis of lack of income, but in 1979 Y K Alagh Committee adopted a new approach based on household per capita consumption expenditure basis.

This committee defines the first poverty line in India.

Daily consumption fixed by the committee in Rural= 2400 calories/day

Daily consumption fixed by the committee in Urban= 2100 calories/day

Note- In rural India value of consumption was put high because of physical labour they undergo.

(ii) Lakdawala Committee
  Formed in 1989.
  Chairman- D.T. Lakdawala
  Submitted report in 1993.
  Daily consumption fixed by the committee in Rural= 2400 calories/day
    Daily consumption fixed by the committee in Urban= 2100 calories/day
  The committee used CPI-IL and CPI-AL for estimation of Poverty
    Note- CPI-IL (Consumer Price Index for Industrial Labourers)
    CPI-AL (Consumer Price Index for Agriculture Labourers)

(ii) Tendulkar Committee
  Formed in 2005.
  Chairman- Suresh D. Tendulkar
  Submitted its report in 2009.
  Changed calorie based estimation to nutrition, health and other expenditure based
  Introduce a new term Poverty Line Basket (PLB) which is the basket of all goods selected to determine
    poverty.
  Consumption quantity fixed the same for both rural and urban people but price differs-
    Daily per capita expenditure for Rural- Rs. 27
    Daily per capita expenditure for Urban- Rs. 33

(iii) Rangarajan Committee
  Formed in June 2012.
  Chairman- Rangarajan
  Submitted its report in June 2014.
  Again, adopted the calorie-based approach which was used in past.
  Daily per capita expenditure for Rural- Rs. 33
    Daily per capita expenditure for Urban- Rs. 47

History of Banking in India (Before & After Independence)
Phases of Indian Banking System
The advancement in the Indian banking system is classified into 3 distinct phases:
1. The Pre-Independence Phase i.e. before 1947
2. Second Phase from 1947 to 1991
3. Third Phase 1991 and beyond
1. The Pre-Independence Phase i.e. before 1947
  This phase is characterized by the presence of a large number of banks (more than 600).
  Banking system commenced in India with the foundation of Bank of Hindustan in Calcutta (now
    Kolkata) in 1770 which ceased to operate in 1832.
  After that many banks came but were not successful like:
(1) General Bank of India (1786-1791)
(2) Oudh Commercial Bank (1881-1958) – the first commercial bank of India.
Whereas some are successful and continue to lead even now like:
(1) Allahabad Bank (est. 1865)
(2) Punjab National Bank (est. 1894, with HQ in Lahore (that time))
(3) Bank of India (est. 1906)
(4) Bank of Baroda (est. 1908)
(5) Central Bank of India (est. 1911)
  While some others like Bank of Bengal (est. 1806), Bank of Bombay (est. 1840), Bank of Madras (est.
    1843) merged into a single entity in 1921 which came to be known as Imperial Bank of India.
  Imperial Bank of India was later renamed in 1955 as the State Bank of India.

In April 1935, Reserve Bank of India was formed based on the recommendation of Hilton Young Commission (set up in 1926).

In this time period, most of the banks were small in size and suffered from the high rate of failures. As a result, public confidence is low in these banks and deposit mobilization was also very slow. People continued to rely on the unorganized sector (moneylenders and indigenous bankers).

2. The second phase from 1947 to 1991

Broadly the main characteristic feature of this phase is the Nationalization of the bank.

With the view of economic planning, nationalization emerged as the effective measure.

Need for nationalization in India:

(a) The banks mostly catered to the needs of large industries, big business houses.

(b) Sectors such as agriculture, small-scale industries and exports were lagging behind.

(c) The poor masses continued to be exploited by the moneylenders.

Following this, in the year 1949, 1st January the Reserve Bank of India was nationalized.

Fourteen commercial banks were nationalized on 19th July 1969. Smt. Indira Gandhi was the Prime Minister of India, during in 1969. The following banks are nationalized:

1. Central Bank of India
2. Bank of India
3. Punjab National Bank
4. Bank of Baroda
5. United Commercial Bank
6. Canara Bank
7. Dena Bank
8. United Bank
9. Syndicate Bank
10. Allahabad Bank
11. Indian Bank
12. Union Bank of India
13. Bank of Maharashtra
14. Indian Overseas Bank

Six more commercial banks were nationalized in April 1980. These are mentioned below:

1. Andhra Bank
2. Corporation Bank
3. New Bank of India
4. Oriental Bank of Commerce
5. Punjab & Sindh Bank
6. Vijaya Bank.

Meanwhile, on the recommendation of Narasimham committee, Regional Rural Banks (RRBs) were formed on Oct 2, 1975. The objective behind the formation of RRBs was to serve the large unserved population of rural areas and promoting financial inclusion.

With a view to meet the specific requirement from the different sector (i.e. agriculture, housing, foreign trade, industry) some apex level banking institutions were also setup like:(a) NABARD (est. 1982)

(b) EXIM (est. 1982)

(c) NHB (est. 1988)

(d) SIDBI (est. 1990)

Impact of Nationalization

Improved efficiency in the Banking system – since the public's confidence got boosted.

Sectors such as Agriculture, small and medium industries started getting funds which led to economic growth.

Increased penetration of Bank branches in rural areas.

3. Third phase 1991 and beyond

This period saw a remarkable growth in the process of development of banks with the liberalization of economic policies.

Even after nationalization and the subsequent regulations that followed, a large portion of masses is untouched by the banking services.

Considering this, in 1991, the Narasimham committee gave its recommendation i.e. to allow the entry of private sector players into the banking system.

Following this, RBI gave license to 10 private entities, out of which few survived the market demands, which are- ICICI, HDFC, Axis Bank, IndusInd Bank, DCB.

In 1998, the Narsimham committee again recommended entry of more private players. As a result, RBI gave license to the following newbies:

(a) Kotak Mahindra Bank (2001)

(b)Yes Bank (2004)

Points to Note

1. Allahabad Bank, established in 1865 – Allahabad Bank is the oldest Public Sector Bank in India having branches all over India and serving the customers for the last 145 years.

2. Imperial Bank of India was later renamed in 1955 as the State Bank of India.

3. Punjab National Bank is the first bank purely managed by Indians, which was established in Lahore in 1895.

4. First Truly Swadeshi bank – Central Bank of India is called India's First Truly Swadeshi bank, which was established in 1911 and wholly owned and managed by Indians.

5. Union Bank of India was inaugurated by Mahatma Gandhi in 1919.

6. Osborne Smith was the first governor of the Reserve Bank.

7. CD Deshmukh was the first Indian to be the governor of the Reserve Bank.

8. The first Indian bank to open an overseas branch is Bank of India. It established a branch in London in 1946.

9. State Bank of India has the maximum number of overseas branches.

Money Market- Banking System in India

The banking structure is divided into many parts like Capital Market, Money Market etc.

Money Market

In this, borrowing and lending of funds take place up to 1 year.

It is used for short-term credit.

It includes Reserve Bank of India, Commercial Banks, Cooperative Banks, Regional Rural Banks, some NBFC's etc.

Composition of Money Market

Indian Money market consists of organised sector and unorganized sector. But here, we will put a focus on the organised sector.

Organised Sector:

It is divided into two categories:

A. Banking

Classification of Banks based on the schedule of RBI Act 1934

All banks (Commercial Banks, RRB, Cooperative Banks) can be classified into scheduled and non-scheduled banks.

1. Scheduled Banks

Banks are listed in the second schedule of RBI Act, 1934.

Eligible for obtaining loans from RB on Bank Rate.

2. Non- Scheduled Banks

Banks that are not listed in the second schedule of RBI Act, 1934.

Generally, not eligible for obtaining loans from RBI.

Keep CRR with itself, not with RBI.

Commercial Banks

It is divided into two parts i.e. Public and Private Sector Banks.

Regulated under Banking Regulation act 1949.

They can accept deposits, can provide loans and other financial services to earn the profit.

(a) Public Sector Banks

In these banks, the majority of shares (more than 50%) are held by the Government.

Currently, in India, there are 21 Public sector banks after the merger of SBI with their associate banks and Bhartiya Mahila Bank (BMB).

The Nationalisation of banks was done by government in two stages:

The first stage of nationalization took place in July 1969, in which fourteen banks were nationalized.

The second stage of nationalization of Banks took place in April 1980, in which six banks were nationalized.

Objectives of Nationalization of Banks:

1. Reducing Private Monopolies

2. Social Welfare

3. Expansion of Banking Facilities

4. Focus on Priority Sector Lending

(b) Private Sector Banks

In these banks, the majority parts of shares are not held by the government.

Private sector banks consist of both Indian Banks as well as foreign banks.

Private banks which were set up before 1990 (liberalisation of the economy) are categorised as Old Banks.

Private banks which were set up after 1990 (liberalisation of the economy) are categorised as New Banks.

Local Area Banks- Private Banks which are allowed to operate in the limited area called local area banks and registered under the companies act, 1956. The minimum capital required for these banks is Rs. 5 crores.

Regional Rural Banks

Established under RRB Act, 1976.

Regional Rural Banks are set up by public sector banks.

The objective of RRBs is to increase credit flow to rural areas.

After the Kelkar committee's recommendations in April 1987, no new RRBs have been opened.

Cooperative Banks

Established with the aim of funding agriculture, cottage industries etc.

Can perform both deposits and lending activities.

NABARD (National Bank for Agriculture and Rural development) is the apex body of the cooperative sector in India.

Composition of Cooperative Banks

1. Rural Cooperative Credit Institutions

(a) Short Term Structure

Lend up to one year.

It is further divided into a three-tiered setup.

(i) State Cooperative Bank: Apex body for cooperative banks in the state.

(ii) Central or District Cooperative Banks: Operate at the district level.

(iii) Primary Agriculture Credit Societies: Operate at the village level.

(b) Long-Term Structure

Lend for more than one year to twenty-five years.

It is divided into two-tiered setup:

(i) State Cooperative Agriculture and Rural Development Banks and

(ii) Primary Cooperative Agriculture and Rural Developments Banks

2. Urban Cooperative Credit Institutions

Set up in urban and semi-urban areas.

Lend to small businesses and borrowers.

B. Sub Markets

Sub Market, market to generate resources for investment and to meet the shortage of money for regular activities.

The government, Financial Institutions and Industries take part in the submarket.

The composition of the Sub Market-

(i) Call Money Market

Known as Short Notice Market.

Generally used for inter-bank borrowing and lending.

Loans for a range from one to fourteen Days.

It is also divided into two categories- A. Call market or Overnight Market (Within one Day)

B. Short Notice market (up to fourteen days)

(ii) Bill Market or Discount Market

(a) Treasury Bills

Issued by Government treasury.

Used for short-term credit.

Non-interest bearing (Zero Coupon bonds), issued at discount price.

(b) Commercial Bill Market

Bills other than treasury bills.

Issued by traders and industries.

(iii) Dated Government Securities

Used for long-term maturity.

(iv) Certificates of Deposits

Issued by commercial banks and financial Institution

(v) Commercial Paper

Issued by corporate, Primary dealers and financial institutions.

Capital Market

Financial Market is the market where borrowing and lending of funds of all individual, institutions, companies and of the government take place. In India, Financial Market can be divided into two main categories-(A) Money Market (B) Capital Market. In this article, we will read the "Basics of Capital market, Stock market, their types, and features"

Money Market

It is used for short-term credit.

Generally, we use it for borrowing and lending of money up to 1 year.

It includes Reserve Bank of India, Commercial Banks, Cooperative Banks, Regional Rural Banks, Some NBFC's etc.

Capital Market

It is used for long-term credit.

Generally, we use it for borrowing and lending of money above 1 year.

It includes Stock exchanges, Housing finance companies, Insurance companies etc.

All the institutions listed in the capital market are called Non-banking financial companies (NBFC's).

But it is not Necessary that all NBFCs are part of the capital market.

NBFCs

NBFCs is a company registered under the companies act, 1956. It differs from banks in the following aspects-

(i) It cannot accept demand deposits.

(ii) They do not have insurance coverage on their deposits however bank deposits have insurance cover of Deposit Insurance and Credit Guarantee Corporation.

Balance Of Payments

Introduction

International Monetary Fund (IMF) defines the Balance of Payments (BoP) as a statistical statement that summarizes economic transactions between residents and non-residents during a specific time period.

The BoP, thus, includes all transactions showing:

(a) Transactions in goods, services and income between an economy and the rest of the world,

(b) Change of ownership and other changes in that economy's monetary gold, special drawing rights (SDRs), and financial claims on and liabilities to the rest of the world

(c) Unrequited transfers- transfer of money in which nothing is expected in return.

Example- Foreign aid, debt forgiveness etc.

These transactions are categorized into

(i) Current Account

(ii) Capital Account and Financial Account (capital account is redesignated as capital and financial account)

The balance of payments is, basically, the record of all international financial transactions made by a country's residents.

The balance of payments tells us whether the country has a surplus or deficit. It also reveals whether the country produces enough economic output to pay for its growth.

When BoP is deficit it implies

A balance of payments deficit means the country imports more goods, services and capital than it exports.

The country must borrow from other countries to pay for its imports.

In the short-term, that fuels the economic growth. But, in the long-term, the country becomes a net consumer, not a producer, of the world's economic output.

The country goes into debt to pay for consumption instead of investing in future growth. If the deficit continues for long, the country gets into the debt trap and might end up selling its assets to pay off its debt.

When BoP is surplus it implies

A balance of payments surplus means the country exports more than it imports.

The country basically saves more than it earns. This boosts the capital formation with its additional income. They might even lend outside the country.

A surplus boosts economic growth in the short term.

In the long run, the country becomes too dependent on export-driven growth. It must encourage its residents to spend more. A larger domestic market will protect the country from exchange rate fluctuations

BOP Components

The BoP can be broadly divided into two accounts namely-
(a) Current Account
(b) Capital and financial account.

Current Account

The current account measures the transfer of real resources (goods, services, income and transfers) between an economy and the rest of the world.

The current account is further subdivided into a merchandise account and invisible account.

The merchandise account consists of transactions relating to exports and imports of goods.

In the invisible account, there are three broad categories namely-
(a) non-factor services such as travel, transportation, insurance and miscellaneous services;
(b) transfers which do not involve any value in exchange, and
(c) income which includes compensation for employees and investment income.

Current Account Deficit (CAD)

Current Account Deficit (CAD) = Trade Deficit + Net Income From Abroad + Net transfers
Note: Here Trade Deficit= Export-Import
So we can see here that Trade Deficit and Current Account Deficit both are different and the Trade Deficit is one component of Current Account Deficit.

Capital Account and Financial Account

The capital and financial account reflect the net changes in financial claims on the rest of the world.
Note-
The former balance of payments capital account has been redesigned as the capital and financial account as per the fifth edition of Balance of Payments Manual (IMF).

The capital account can be broadly broken up into two categories namely-
(a) Non-debt flows such as direct and portfolio investments
(b) Debt flows such as external assistance, commercial borrowings, non-resident deposits, etc.

The financial account records an economy's transaction in external financial assets and liabilities.

All components are classified according to type of investment or by functional subdivision
(a) Direct investment
(b) Portfolio investment
(c) Other investment
(d) Reserve assets

The sum of the current account and capital account indicates the overall balance, which could either be in surplus or in deficit. The movement in overall balance is reflected in changes in the international reserves of the country.

Sr. No.	Articles	Opportunity cost
1.	Free goods like clean air, abundant fresh water, etc.	No
2.	Common goods (in abundant)	No
3.	Common goods (scarce)	Yes
4.	Government expenditure in defence	Yes

| 5. | Government freebies to citizens | Yes |
| 6. | Public goods like roads, railways, infrastructure, etc. | Yes |

The opportunity cost is considered to be zero for naturally occurring abundant resources like free unpolluted air, water etc. and also for common goods like grazing land, oceans etc.

For government expenditures, the Opportunity cost is never zero because the authorities always have choices to make.

So, whatever is chosen, there would exist something forgone as well. Like if the government decides to build a bridge, the government could have spent that price onto increasing more personnel to ensure safety.

In the case of freebies, for consumers/ citizens, there is no opportunity cost because it is transferred from them to the government.

PRODUCTION POSSIBILITY CURVE:

With the available amount of resources and technology, the various alternative combinations of production of a set of two goods are plotted to give a production possibility curve.

It is also known as the Production Possibility Frontier or Transformation curve.

The curve helps in deciding "what to produce".

Thus, the curve provides all the production possibilities available, out of which the most economically or physically viable one could be chosen to maximize profit and minimize the losses attached.

Different points on a curve

Point X represents underutilization of resources;

point Y represents infeasible option i.e. non-feasibility of the chosen combination (beyond the capacity);

while points A, B and C represent the full utilization of resources.

If the resources and technology available increases, the curve shifts towards the right and if resources and technology fall short, the curve shifts towards the left.

SUPPLY-DEMAND CURVE:

Supply curve:

It represents the relationship between the price and quantity of a product produced which the seller is ready to supply in the market, keeping other variables to be constant.

Herein quantity of the product is plotted horizontally on x-axis and price of the same product on the y-axis.

It is generally a straight line sloping upward from left to right as shown in the graph. This is so because price and quantity of a product are directly related, i.e. if the price of a product is increasing in the market, its quantity in the market will also increase in the same manner (increase in price acts as an incentive for the suppliers to produce more).

With the change in variables, the supply curve can shift in either direction. If it shifts towards the left, it implies a decrease in the quantity of product supplies in the market and rightward shift implies an increase in quantity supplies with respect to the price of the product.

Demand curve:

It represents the relationship between the price and quantity of the product demanded by the consumers, keeping all other variables to be constant.

It generally represents a downward sloping straight line from left to right as shown in the graph below.

This is so because price and quantity of the product demanded are inversely related to each other, i.e. if the price of a commodity falls, its demand rises.

Conforming to the supply curve, if it shifts leftwards, it implies a decrease in demand and if rightwards, it implies an increase in demand of a product.

Keynesian Theory

Keynesian Economics

It was developed by the British economist John Maynard Keynes during the 1930s. It was an attempt to understand the Great Depression.

It suggested increasing government expenditures and lower taxes to stimulate demand and pull the global economy out of the depression.

Keynesian Theory of Employment

This theory rejected the notion of full employment and instead suggested full employment as a special case and not a general case.

It said if there is an increase in national income, there would be an increase in level of employment and vice versa.

According to this theory, the level of employment is dependent on national income and output and factors of production remain unchanged while determining the level of employment.

Laissez-faire Theory

This theory opposed any government intervention in business affairs.

World Trade Organisation: Structure, Objectives, Agreements, Subsidies

Introduction

WTO is an international organization set up in 1995 by replacing the General Agreement on Trade and Tariffs (GATT) under the Marrakesh Agreement.

It is the only global international organization dealing with the international Trade between nations.

Its HQ is located in Geneva, Switzerland.

Currently, WTO has 164 members and India is a founding member of WTO.

Currently, the head (Director-General) of WTO is Roberto Azevedo.

Evolution of WTO

After the end of World War-II, various international organizations were formed to facilitate collaboration between countries in dealing with economic, social, and technical problems.

For the development of the world economy and seamless trade among all the countries, a dire need was felt for an international organization for regulating international trade.

In 1945 a conference known as the Bretton Woods Conference (by two Bretton wood institutions- IMF and World Bank) was held for the creation of international trade organization (ITO) which finally could not be ratified due to lack of approval by the US and many other major countries.

As the US was an emerging world power after World War-II, hence the creation of ITO without the US was meaningless.

Meanwhile, through negotiations, a multilateral agreement was concluded in 1947 known as the General Agreement on Tariffs and Trade (GATT).

Various conferences of GATT were held on periodic intervals for negotiations on trade. Finally, during the Uruguay round of conference held from 1986-1994, agreement on the creation of WTO was finally ratified through the Marrakesh Agreement.

India has been a member of GATT since 1948 and a founding member of WTO. China joined WTO only in 2001 and Russia in 2012.

Objectives of WTO

To formulate and implement rules for international trade.

To provide a platform for negotiating and monitoring further trade liberalization.

To provide a platform for the settlement of disputes.

Providing assistance to the developing, least-developed and low-income countries in transition to adjust to WTO rules and disciplines through technical cooperation and training.

To cooperate with the other major economic institutions (like UN, World Bank, IMF etc) involved in global economic management.

Structure of WTO

The basic structure of WTO is as appended below:-

Ministerial Conference – It is the topmost decision-making body of the WTO. Usually, it meets after every two years. It brings together all WTO participants.

The General Council – It is composed of representatives of all the member states. It is responsible for the day-to-day business and management of the WTO.

Other councils/bodies - There are many other bodies like Goods Council, Services Council, Trade Policy Review Body, Dispute Settlement Body etc. which deals with other specific issues.

Principles of WTO

The WTO Agreements are based on the following simple and fundamental principles:-

Non Discrimination

Most Favored Nation - All nations should be treated equally. No one country can grant any other member country any special favour. For example, if one country lower tariff to one country then it has to be lowered to all other member countries.

National Treatment- Same treatment to all products, either local or foreigners. Fair and equal treatment is given to local as well as the products imported from other countries.

Reciprocity - Lowering of import duties and other trade barriers in return for similar concessions from another country.

Predictability through Binding and enforceable commitments - To make the business environment stable and predictable.

Transparency - The WTO members need to publish their trade regulations and to notify changes in trade policies to the WTO.

Encouraging Development and Economic Reforms - All efforts are made by the WTO system to contribute to development.

Important Trades Agreements of WTO

The important trade agreements concluded under WTO are -

Agreement on Agriculture (AoA),

Agreement on TRIPS (Trade-Related Aspects of Intellectual Property Rights),

Agreement on the Application of Sanitary and Phytosanitary Measures (SPS),

Agreement on Technical Barriers to Trade (TBT),

Agreement on Trade-Related Investment Measures (TRIMS),

General Agreement on Trade in Services (GATS) etc.

Agreement on Agriculture (AoA)

It was negotiated during the Uruguay Round of the GATT and was concluded with the establishment of the WTO in 1995.

Through AoA, WTO aims at reforming trade in agriculture with a fair and market-driven system.

The Agreement allows governments to support their rural economies, but only allows those policies that cause less trade "distortions".

This agreement has fixed commitments from all member states on the following three agricultural supply chain system:-

Improving Market access– This can be done by removing various trade barriers by the member states. By fixing the tariffs and progressively promoting free trade among member states which will ultimately lead to an increase in market access.

Domestic Subsidies- It basically motivates for the reduction in domestic subsidies that distorts free trade and fair prices. This is based on the premise that not all subsidies distort trade to the same

extent. Under this agreement, Subsidies can be categorized into the following three boxes –

(a) Green Box – All those subsidies that do not distort trade or cause minimal distortion, come under the green box.
Ex-All government services such as research, disease control, and infrastructure and food security. Also, all those subsidies given to the farmers that directly do not affect international trade also comes under the green box.

(b) Amber Box - All kinds of domestic subsidies or support that can distort production and trade (with some exceptions) fall into the Amber Box. The measures to support prices come under this box. The exception is the provision that accepts subsidies upto 5% of agricultural production for developed countries, 10% for developing countries.

(c) Blue Box – All those Amber Box subsidies which tend to limit the production comes under Blue Box. This can be increased without limit as long as subsidies are linked to production-limiting programs.

Export subsidies – All those subsidies that make the export of agricultural products cheaper are called export subsidies. These are basically presumed to have trade-distorting effects. This agreement prohibits the use of export subsidies by the member states for agriculture products.

India's trade concerns and WTO

Appended below please find India's concerns related to trade in WTO:-

Tariff on steel and aluminium – Recently the USA govt imposed 10% tariff on aluminium and 25% tariff on steel against various trade partners. India wants that it should be removed or it will raise the issue in WTO.

Export Subsidy Issue – Recently USA dragged India to WTO and raised concern on the export subsidy regime provided to the Indian companies in the form of SEZ, MEIS, EPCG, etc. USA argues that as India's Per Capita Income has increased from $ 1000, India can't use the export subsidy regime as per the ACSM.

Agricultural subsidies - The present quota of subsidies is based on the price levels of 1986-88. Presently the minimum support price (MSP) concept which provides subsidies to the farmers in India falls under the Amber box. It can directly affect India's food security program. India wants that it should be at the current price level and the amber box concept should be done away with. However, a 'peace clause' agreed to during the Bali conference allows India to carry on with its PDS program as of now. But the developed member states are not taking any steps for a permanent solution of this   problem.

Special and differential treatment (SDT) - During Doha round, member states agreed to provide favourable treatment to developing nations. However, developed countries are denying the emerging economies such as India and China as unworthy of this provision.

Issues related to intellectual property rights – The issues of compulsory licensing of medicines have been resolved through TRIPS. However, the developed nations are trying to push for TRIPS commitments.

NITI Aayog

NITI Aayog is created for the financial planning at pan-India and the important reports it releases for the development assessing various parameters.

The Planning Commission was established in March 1950 by a resolution of the Government of India.

It was made responsible for assessing national resources and drafting five-year plans for the effective use of the resources.

The objective was to the proper and effective utilization of resources. With changing times, and growing needs of the people and effectively address them, a new version of planning body i.e. NITI Aayog was established by a resolution of the Union Cabinet on January 1, 2015, replacing the Planning Commission.

NITI Aayog is regarded as the premier policy 'Think Tank' of the Government of India. It provides both directional and policy inputs.

Besides designing the strategic and long-term policies and programmes for the Government of India, the Aayog also provides relevant technical advice to the Centre as well as the States.

Role of International Labour Organization (ILO) in Social Security

It was created as part of the "Treaty of Versailles" that ended World War I to ensure social justice for people of work.

It became a specialized agency of newly formed united nations after the second world war and today has a membership of 186 states that continues to grow. The tripartite structure is unique to the ILO where representatives from the government, employers and employees openly debate and create labour standards.

The ILO received the Nobel Peace prize in 19 69 and today is recognized as the world's authority on the world of work.

Its impact has seen key moments in history. Headquartered in Geneva with over 40 new offices around the globe, the ILO is unique amongst international organizations, where not only governments but employers and workers as well have equal voices.

They work together to create Labour standards and qualities that impact today's global economy.

In 2008, the ILO adopted a Declaration on Social Justice for fair globalization to respond to our world faced with the economic crisis. It made decent work the core of ILO policy and with the decent work agenda into practice. The Decent Work Agenda has forced to teach objectives:

Promote decent employment opportunities

Enhance social protection

Strengthen tripartism and social dialogue

Guarantee Fundamental principles and rights at work

Pradhan Mantri Garib Kalyan Yojana

About Pradhan Mantri Garib Kalyan Yojana

The Pradhan Mantri Garib Kalyan Yojana (PMGKY) was originally launched by PM Narendra Modi in 2015 as a scheme built with the objective of addressing poverty.

However, with the recent demonetization drive launched by the government to curb the spread of black money, an amendment has been made to the existing Income Tax Bill and the PMGKY has been made a part of the Taxation Laws (Second Amendment) Act, 2016.

Quick Glance at the announced highlights:

Insurance cover of Rs 50 Lakh per health worker fighting COVID-19 to be provided under Insurance Scheme

80 crore poor people will get 5 kg of wheat or rice and 1 kg of preferred pulses for free every month for the next three months

20 crore women Jan Dhan account holders to get Rs 500 per month for next three months

Increase in MNREGA wage to Rs 202 a day from Rs 182 to benefit 13.62 crore families

Ex-gratia of Rs 1,000 to 3 crore poor senior citizen, poor widows and poor disabled

Government to front-load Rs 2,000 paid to farmers in the first week of April under existing PM Kisan Yojana to benefit 8.7 crore farmers

Central Government has given orders to State Governments to use Building and Construction Workers Welfare Fund to provide relief to Construction Workers

MGNREGA: The Contribution to Strengthening the Rural Economy

What is MGNREGA?

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a law whereby any adult who applies for employment has to be given a guarantee of 100 days of work on local public works within fifteen days of registration. If employment is not given, then the unemployment allowance has to be paid.

The Act enacted in 2005 is regarded as the largest work guarantee program in the world, guarantees 100 days of wage employment per year to rural households. Roughly one-third of the stipulated workforce must be women.

Note: Previously, this social security scheme was called 'National Rural Employment Guarantee Act, but after April 2008, it was renamed as Mahatma Gandhi National Rural Employment Guarantee Act. Presently, the minimum number of days of work have been increased up to 150 days.

The objective of the MGNREGA Scheme

It aims at addressing the causes of chronic poverty through the works that are undertaken and ensuring sustainable development.

The Act was introduced with the aim of improving the purchasing power of the rural people, primarily semi or unskilled work to people living below the poverty line in rural India.

It also aims to strengthen the process of decentralization and empowers Panchayati Raj Institutions (PRIs) for the planning and implementation of these works.

Operation flood

In 1970, the National Dairy Development Board (NDDB) launched "Operation Flood," which became India the world's largest milk producer. This programme was dubbed "The White Revolution" because of its enormous success. Dr. Verghese Kurien, commonly known as the "Father of the White Revolution," was the principal architect of this successful endeavour.

Mr. Kurien voluntarily left a government post as a dairy engineer in 1949 to join the Kaira District Co-operative Milk Producers' Union (KDCMPUL), today known as Amul.

Since then, Kurien has grown this organisation into one of India's largest and most successful institutions. The Amul cooperative model was so successful that in 1965, then-Indian Prime Minister Shri Lal Bahadur Shastri established the National Dairy Development Board (NDDB) to replicate it across the country, praising Kurien for his "exceptional and vigorous leadership."

Operation Flood:

The Operation Flood was completed in three phases:

Phase I (1970-79):- During this phase, consumers in the four metros of Mumbai, Delhi, Chennai, and Kolkata were connected to 18 of the country's primary milk sheds. This phase cost a total of Rs.116 crores. The main goals were to gain control of the milk market and to accelerate the growth of dairy animals in rural areas.

Phase II (**1981–1985):-** Milk sheds were increased from 18 to 136, and milk outlets were expanded to 290 metropolitan marketplaces. By the end of 1985, 43,000 village cooperatives with 42.5 lakh milk producers had been covered, resulting in a self-sustaining system. By 1989, domestic milk powder production had risen from 22,000 to 140,000 tonnes.

Phase III (1985–1996):- Dairy cooperatives were able to grow and develop the infrastructure needed to buy and market rising milk volumes. Cooperative members now have access to veterinary first-aid health care, feed, and artificial insemination services, as well as increased member education. During Phase II, it was decided to add 30,000 new dairy cooperatives to the 42,000 already existing societies. In 1988-89, the number of milk sheds reached a high of 173, with the number of women members and Women's Dairy Cooperative Societies expanding dramatically.

Amul:

("priceless"). The dairy cooperative "Amul," derived from the Sanskrit "Amoolya," was founded in 1946. It is a brand name controlled by Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF), an apex cooperative organisation controlled by 2.8 million milk farmers in Gujarat, India. Amul was the model dairy board for the White Revolution. The NDDB's entire programme was built on the success of this dairy board. The three-tiered 'Amul Model' was crucial in bringing about the country's White Revolution.

Achievements of the White Revolution

It has enabled India's unprecedented development in milk output, which has gone from 20 million MT to 100 million MT in just 40 years. As a result, India has risen to become the world's greatest milk producer today.

The dairy cooperative movement has also pushed Indian dairy producers to retain more animals, resulting in the world's largest cattle and buffalo population of 500 million.

More than 125,000 communities in 180 districts across 22 states have joined the dairy cooperative movement.

Because of a well-developed procurement system and supported federal structures at the District and State levels, the movement has been effective.

DEVELOPMENT OF MIXED ECONOMY: PUBLIC AND PRIVATE

India's progress is inextricably linked to its decision to opt for a mixed economy at the outset of the planning process. There has never been a consensus among social scientists on whether the mixed economy model is the best option for India, and this lack of consensus continues to this day.

In a mixed economy, the public and private sectors must work together. It prevents the market mechanism from running freely, and the government intervenes in or regulates the private sector in such a way that the two sectors mutually reinforce one another. Individual initiative and social interests can be reconciled in a mixed economy.

Capitalism:

Capitalism is defined as an economic system that emphasises individual initiative with a central role for a market economy, the profit motive, and private individual and corporate ownership of means of production. All means of production, including as farms, factories, mines, and transportation, are owned and controlled by private individuals and businesses under capitalism. Owners of these industrial assets are free to use them as they see fit in order to generate private profit. The state or government plays the smallest role in people's economic activity. The government looks after only such matters as defence, foreign affairs, currency and coinage and some important civil works such as the construction of roads and bridges because private individuals may not find it profitable to undertake such works. Adam Smith was of the opinion that interests of individuals and those of the society coincide.

Features of Capitalism

1) The Right of Private Property

2) Freedom of Enterprise: no restriction in any business or enterprise

3) Profit Motive

4) Competition

5) Consumers Sovereignty

6) Price System

7) Unequal distribution of incomes

Socialism

"Socialism is an economic organisation in which the material means of production are owned by the entire community according to a general economic plan, with all members entitled to benefit from such socialised planned production on the basis of equal rights; democratic socialism, on the other hand, is defined by public ownership of at least the "strategically important material means of production."

Salient Features of Mixed Economy :

Between the two extremes of capitalism and socialism, let's define a mixed economy in functional terms.

It is a balance between the market economy and the planning mechanism;
It has clear demarcation of the boundaries of public sector and private sector so that 'the core sector and strategic sectors are invariably in the Public sector;
While profit motive influences decision-making in the private sector, the economic viability criteria for investment decisions in the public sector is based on social cost-benefit analysis;

The ownership of means of production as between public sector, private sector, joint sector and cooperative sector is so decided that there is a balance between personal and social incentives and sectional and general interests;

There is occupational freedom and freedom of consumers' choice;

The government intervenes to prevent undue concentration of economic power, and monopolistic and restrictive trade practices;

The government endeavors to take care of the consumption levels and objectives of the weaker sections of the society through public distribution system, poverty alleviation programs etc.;

Social objectives of equity, employment, balanced regional development, family welfare are emphasized;

The doctrinaire rigidities of socialism are avoided and a pragmatic approach to decision-making for promoting economic growth is usually adopted, mixed economy is not merely an economic concept and the rights of the individual are respected and protected subject only to the requirements of public law and order and morality.

As early as the First Five Year Plan, the Indian policy makers decided that the State must not only assume the responsibility of providing the infrastructure facilities and the social overheads, but should also undertake direct promotional work. It was recognised that the government should intervene in the industrial field and accordingly the development of basic and strategic industries was earmarked to the public sector. It was also recognised that the task of economic development of the country was so large that the initiative of both the private and public sectors had to be harnessed for optimal growth.

With the announcement of the Industrial Policy Resolution, 1956, the concept of mixed economy was given a definite shape and policy direction. Even before that, the Industrial Policy Resolution of 1948 had sought to establish mixed economy, with both private and public sectors, increasing controls in government hands for regulating all industries.

The two main instruments of industrial policy were the Industries (Development and Regulation) Act of 1951 and the Companies Act of 1956. These two Acts conferred un the government, through licensing procedure, the power of regulating location, production and expansion of major industries in the country.

Industrial Policy Resolution, 1956 - The Avadi Resolution of the Indian National Congress declared the establishment of a socialistic pattern of society as the aim of economic and industrial policy of the government.

Schedule A : Those industries which were to be the sole responsibility of the State. This list included 17 industries - arms and ammunition, atomic energy, iron and steel, heavy machinery required for mining etc.

Schedule B : There were about a dozen industries in the list, where the State might establish new units or existing units might be progressively nationalised.

Schedule C : Industries that would be in the hands of private sector and would be subject to the social and economic policy of the government.

Industrial Policy Resolution, 1977: "Unemployment has increased, rural-urban imbalances have deepened, and the pace of actual investment has stalled," the new Industrial Policy of 1977 said of the 1956 Resolution. The average annual growth rate of industrial output has been between three and four percent.

- The new policy focused on the development of small scale sector, cottage and household industries and the tiny sector.
- It further provided for using provisions of the Monopolies and Restrictive Trade Practices Act against expansion of larger industrial houses.
- The public sector was to be used for providing strategic goods of basic nature and also for maintaining supplies of essential goods

Industrial Policy 1980: It reiterated the Industrial Policy, announcements of 1956 showing the merit of constructive flexibility. The task of raising the pillars of economic infrastructure in the country was entrusted to the public sector for reasons of its greater reliability. The policy accorded priority to optimum utilisation of installed capacity, balanced regional development, agro-based, export-oriented industries and promoting "economic federalism" by equitable spreading of investment over small but growing industrial units in urban as well as rural areas.

Post 1991 Reforms

LPG Reforms in India was a very crucial step forward for the economic development of India.

Since independence, India followed the mixed economy framework by combining the advantages of the capitalist economic system with those of the socialist economic system. In 1991, India met with an economic crisis relating to its external debt — the government was not able to make repayments on its borrowings from abroad as the foreign exchange reserves were exhausted. The crisis was further compounded by rising prices of essential goods. All these led the government to introduce a new set of policy measures which changed the direction of our developmental strategies.

Background of the crisis:

- Inefficient management of the Indian economy in the 1980s. India being an agro-based economy neglected other sectors like industry, banking, insurance, foreign trade, etc.

- When expenditure is more than income, the government borrows to finance the deficit from banks and also from people within the country and from international financial institutions.

- Development policies required that even though the revenues were very low, the government had to overshoot its revenue to meet challenges like unemployment, poverty and population explosion.

- The continued spending on development programmes of the government did not generate additional revenue.

Moreover, the government was not able to generate sufficiently from internal sources such as taxation.

The income from public sector undertakings was also not very high to meet the growing expenditure.

Foreign exchange, borrowed from other countries and international financial institutions, was spent on meeting consumption needs.

Also, sufficient attention was not given to boost exports to pay for the growing imports.

In the late 1980s, government expenditure began to exceed its revenue by such large margins that meeting the expenditure through borrowings became unsustainable.

Prices of many essential goods rose sharply.

Imports grew at a very high rate without matching the growth of exports.

Foreign exchange reserves declined to a level that was not adequate to finance imports for more than two weeks.

India approached the International Bank for Reconstruction and Development (IBRD), popularly known as **World Bank** and the **International Monetary Fund** (IMF), and received $7 billion as a loan to manage the crisis. For availing the loan, India agreed to the conditionalities of the World Bank and IMF and announced the **New Economic Policy** (NEP).

1st Generation Reforms	2nd Generation Reforms
Committees were formed.	Government Institutions were formed.
Could be done by Executive Order of Government.	Requires building consensus for Amendment/ Act to be passed.
Committee	Authority
Malhotra Committee	Insurance Regulatory Development Authority
Damodran Committee	Security Exchange Board of India
Foreign Exchange Regulation Act (FERA),1973	Foreign Exchange Management Act (FEMA), 1999

This set of policies can broadly be classified into two groups: the stabilisation measures and the structural reform measures.

Stabilisation measures are short-term measures, intended to correct some of the weaknesses that have developed in the balance of payments and to bring inflation under control. In simple words, this means that there was a need to maintain sufficient foreign exchange reserves and keep rising prices under control.

Structural reform policies are long-term measures, aimed at improving the efficiency of the economy and increasing its international competitiveness by removing the rigidities in various segments of the Indian economy. The government initiated a variety of policies which fall under three heads viz., liberalisation, privatisation and globalisation.

Liberalisation

Though a few liberalisation measures were introduced in the 1980s in areas of industrial licensing, export-import policy, technology upgradation, fiscal policy and foreign investment, reform policies initiated in 1991 were more comprehensive.
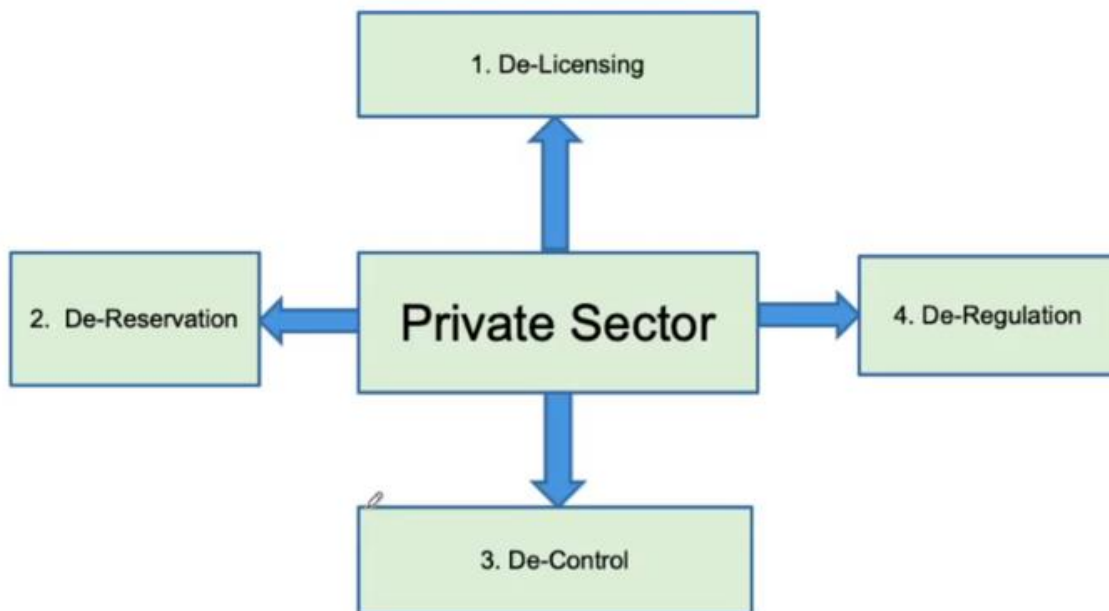
In India, regulatory mechanisms were enforced in various ways:

Industrial licensing under which every entrepreneur had to get permission from government officials to start a firm, close a firm or decide the amount of goods that could be produced

The private sector was not allowed in many industries

Some goods could be produced only in small-scale industries, and

Controls on price fixation and distribution of selected industrial products.

Delicensing: End of License Raj

The reform policies introduced in and after 1991 removed many of these restrictions. Industrial licensing was abolished for almost all **but** product categories — alcohol, cigarettes, hazardous chemicals, industrial explosives, electronics, aerospace and drugs and pharmaceuticals.

Delicensing and De-Reservation Exception List

De-Licensing	De-Reservation
Arms & Ammunitions	Existing Public Sectors except critical sectors
Industrial Explosives	Atomic Energy
Defense Equipment	
Mining of Minerals	Space
Hazardous Chemicals	Railway Operations
Drugs and Pharmaceuticals	
Alcohol & Tobacco Products	Mining of rare minerals

De-Reservation

The only industries which are now reserved for the public sector are a part of defence equipment, space, atomic energy generation, railway transport, mining of rare minerals, etc. Many goods produced by small-scale industries have now been de-reserved. In many industries, the market has been allowed to determine prices.

De-Control

Pricing of commodities done by the government was restricted only for the critical commodities present in the following list.

De-Control	De-Regulation
Minerals	All licenses were discontinued for capacity, more machines, diversification, importing, exporting
CNG/LNG/Gas	
Kerosene	No private sector company would be categorized as MRTP company or FERA company, so no raids (Raids could only be conducted by court order)
Fertilizers (Urea)	Labour/Factory inspects only for compliance with labour and factory laws
Sugar	
Price of utilities (Electricity, Water, Transport)	Factory can only be inspected once a year.

De-Regulation

All other additional restrictions were removed as listed in the above table.

Privatisation

It implies shedding of the ownership or management of a government-owned enterprise. Government companies are converted into private companies in two ways (i) by the withdrawal of the government from ownership and management of public sector companies and or (ii) by the outright sale of public sector companies.
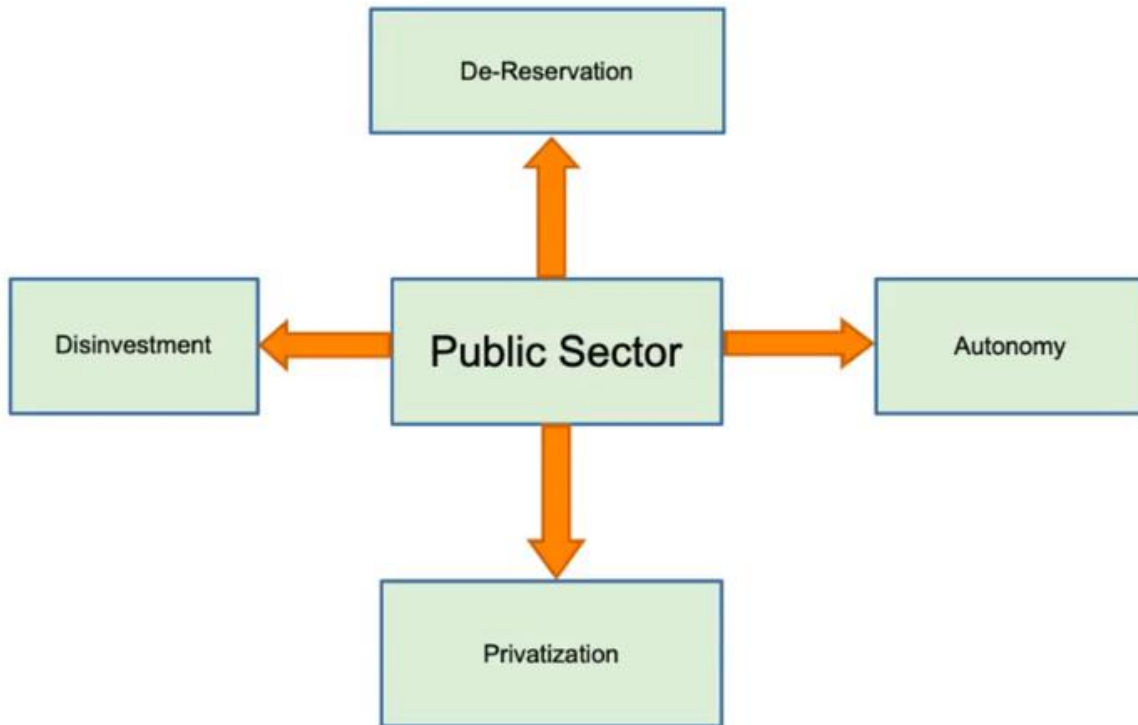
As per the provisions of De-Reservation, the government was to limit its role for few sectors only and for all other sectors, there would be scope for free participation of private players.

Privatisation of the public sector enterprises by selling off part of the equity of PSEs to the public is known as disinvestment. The purpose of the sale, according to the government, was mainly to improve financial discipline and facilitate modernisation.

Disinvestment	Privatization
Selling shares with the objective of raising resource for the government.	Selling shares with the objective of Transfer of Management Control
Shares will be sold to general public	Shares will be sold to a specific buyer.

The government envisaged that privatisation could provide a strong impetus to the inflow of FDI. The government has also made attempts to improve the efficiency of PSUs by giving them autonomy in taking managerial decisions. For instance, some PSUs have been granted special status as Maharatnas, Navratnas and Miniratnas.

Impact of Economic Reforms

The reform process has completed three decades since its introduction. Let us now look at the performance of the Indian economy during this period.
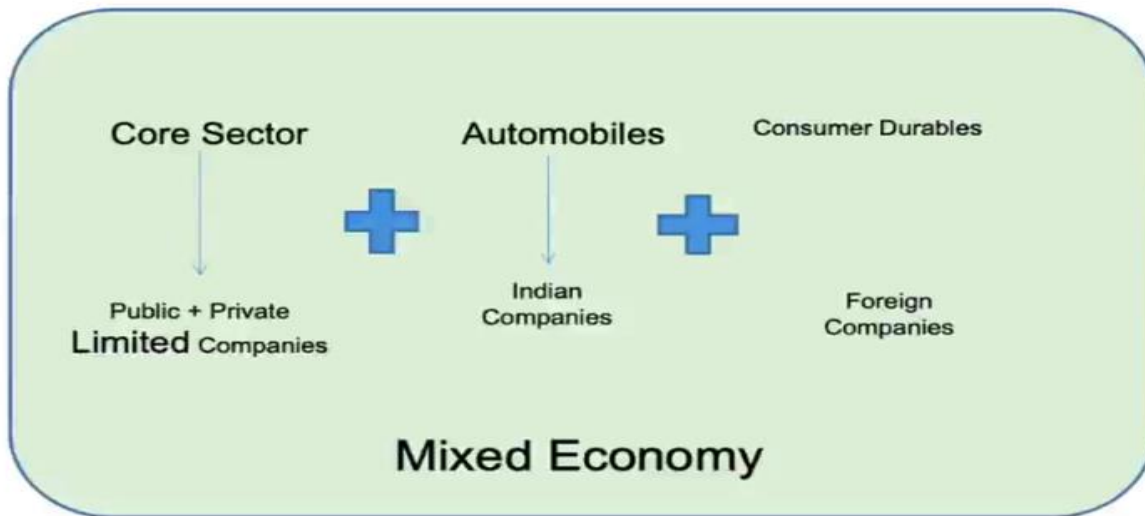
The post– 1991 India witnessed a rapid growth in GDP on a continual basis for two decades. The growth of GDP increased from 5.6 percent in 1990–91 to 7.2 percent in 2017–18.

During the reform period, the growth of agriculture has declined. Public investment in agriculture sector especially in infrastructure, which includes irrigation, power, roads, market linkages and research and extension (which played a crucial role in the Green Revolution), has fallen in the reform period. There has been a shift from production for the domestic market towards production for the export market focusing on cash crops in lieu of production of food grains. This puts pressure on the prices of food grains.

While the industrial sector reported fluctuation, the growth of the service sector has gone up. Industrial growth has also recorded a slowdown. This is because of the decreasing demand for industrial products due to various reasons such as cheaper imports, inadequate investment in infrastructure etc. Moreover, a developing country like India still does not have access to developed countries' markets because of high non-tariff barriers.

The foreign investment, which includes foreign direct investment (FDI) and foreign institutional investment (FII), has increased from about US $100 million in 1990-91 to US $ 30 billion in 2017-18.

There has been an increase in the foreign exchange reserves from about US $ 6 billion in 1990-91 to about the US $ 413 billion in 2018-19.

Economic reforms have placed limits on the growth of public expenditure, especially in social sectors.

The process of globalisation through liberalisation and privatisation policies has produced positive as well as negative results. It has provided greater access to global markets, high technology, and increased the possibility of large industries of developing countries to become important players in the international arena. Viewed from the Indian context, some studies have stated that the crisis that erupted in the early 1990s was basically an outcome of the deep-rooted inequalities in Indian society and the economic reform

policies initiated as a response to the crisis by the government, with externally advised policy package, further aggravated the inequalities. Further, it has increased the income and quality of consumption of only high-income groups and the growth has been concentrated only in some select areas in the services sector such as telecommunication, information technology, finance, entertainment, travel and hospitality services, real estate and trade, rather than vital sectors such as agriculture and industry which provide livelihoods to millions of people in the country.

Green Revolution

What is Green Revolution?

Norman E. Borlaug, a Noble Laureate, and an American agronomist, who led initiatives worldwide that contributed to the extensive increases in agricultural production termed the Green Revolution. He is, thus, called as the Father of Green Revolution.

Green Revolution can be defined as *a process of achieving a great increase in the production of food grains with the application of modern methods and techniques.* In other words, it means achieving high productivity or multiple folds of food grains per unit of land.

What were the factors responsible for the adoption of Green Revolution in India?

Before the green revolution, India had faced a lot of difficulties in food production:

- **Frequent Famines:** In 1964–65 and 1965–66, India experienced **two severe droughts** which led to food shortages.

- **Lack of Institutional Finance:** Marginal farmers found it very difficult to get finance and credit at economical rates from the government and banks.

- **Low Productivity:** India's traditional agricultural practices yielded insufficient food production.

M.S. Swaminathan, who is also known as the **Father of Green Revolution in India** has contributed to the development of high-yielding variety seeds (Wheat and Rice) thereby helping India achieve food security.

Components of Green Revolution

Green Revolution required timely and adequate supply of various agronomic components or inputs, such as:

High Yielding variety seeds: Agronomists like Norman E. Borlaug developed a **dwarf variety of wheat seeds** in Mexico that helped farmers in Asia and Latin America and later whole world could produce high yields.

Chemical Fertilizers: Green revolution requires essential nutrients for seeds or plants - primarily nitrogen, phosphorus, and potassium. But these nutrients from traditional composting methods are not sufficient to produce high yields. Hence, Sprinkling /application of chemical fertilizers provides high nutrients to the soil and thereby helps plants produce high yields.

Irrigation: Controlled supply of water resources is essential for adequate dilution of chemical fertilizers and controlled growth of crops.

Pesticides and Germicides: Since the new seed varieties are non-acclimatised to local pests and germs, application of pesticides and germicides to kill them is essential for secured harvest.

Herbicides and Weedicides: While sowing HYV seeds, application of herbicides and weedicides is required to prevent the chemical fertilisers from not being consumed by herbs and weeds in the farmlands.

Farm mechanisation: Farm mechanisation makes farm work easier and faster. As the green revolution supports mono-cropping over large tracts, mechanisation is essential.

Credit, Storage and Marketing:

Credit: Buying all the above-mentioned inputs – farm machinery, HYV seeds, chemical fertilisers, irrigation (pump sets, borewells), pesticides & germicides and herbicides & weedicides -are costlier. Hence farmers require the availability of affordable credit.

Storage: As green revolution is region specific-ex: a region with reliable irrigation facilities- Bhakra-Nangal multi-purpose dam provides irrigation to 135 Lakh acres in Punjab, Haryana and Rajasthan- gives bumper cropping, storage facilities in the local regions is essential to distribute to various markets.

Marketing & Distribution: A proper chain of marketing, distribution and transport connectivity is essential to distribute the food, to deficient areas and different markets. For building logistics, many countries including India opted for concessional funding or cheaper loans from multilateral agencies like World Bank.

Impact of Green Revolution

Green Revolution has both positive and negative impact on the Indian economy in general and agriculture and the environment in particular.

Positive Impact

Ensure food security: India could achieve self-sufficiency in food production and also emerge as a food surplus country (exporter).

Food Distribution: Areas with deficient food could get food with the development of storage and marketing facilities. PDS system alleviated hunger among poor vulnerable sections.

Improved Farm Incomes: Green revolution has raised a farmer's income with bumper crop production.

Development of Agro-based Industries: Green Revolution led to the growth of agro-based industries like Seed companies, fertilizer industries, Pesticides Industries, Auto and Tractor industries etc.

Negative impact

Inter-personal disparities: Since green revolution favoured individual farmers with huge tracts of land got benefited, while the poor farmer was deprived of the same.

Regional Disparities: Since green revolution requires a consistent supply of irrigation facilities, regions with good irrigation facilities (Punjab, Haryana etc.) got benefitted, whereas north-east India and some parts of central India could not.

Skewed cropping pattern: Choice of crops have been in favour of **wheat** and **rice** impacted the crops like pulses, oilseeds, maize, barley etc. negatively.

Decrease in Soil fertility: Monocropping or growing a single crop year after year on the same land, in the **absence of rotation through other crops** or growing multiple crops on the same land (polyculture) lead to degradation of soil.

Irrigation:

Waterlogging: Rice cultivation requires huge quantities of water, which leads to waterlogging. Waterlogging impairs root growth as roots cannot get oxygen. Water-logging has also led to the *incidence of malaria*.

Salinity of soil: Salinization of soil occurs when the small amounts of salts in irrigation water become highly concentrated on the soil surface through evaporation.

Reduced water table: Excess drawing of water for irrigation of crops from bore wells and aquifers lead to the reduced water table.

Fertilizers, Pesticides and Herbicides:

Excess application of fertilizers, pesticides and herbicides has led to environmental degradation by polluting water, land and air.

Algal blooms: Synthetic or organic fertilizers run-off into adjacent water bodies causing algal blooms and eventually death of marine species.

Bioaccumulation: An increased concentration of chemicals (fertilizers and pesticides) within the fatty tissues of an organism over time. Toxic level in the food chain of India has increased so much that nothing produced in India is fit for human consumption.

Way Forward

To overcome the above negative impact, Swaminathan advocated **"evergreen revolution"-** using environmentally sustainable agriculture, sustainable food security and the preservation of

To reverse imbalanced cropping pattern, Indian Government has envisioned for **Rainbow Revolution**-promoting integrated farming etc.

Post 2014 Developments

A comprehensive indirect tax, levied on manufacture, sale, and consumption of goods and services throughout India is known as Goods and Services Tax (GST).

Introducing GST

GST came out as the one indirect tax for the whole of India.

GST or Goods and Services Tax is an indirect tax levied on the supply of commodities and services.

This law has replaced many indirect tax laws that existed earlier in the country which included the following:

Excise Duty

Service Tax

Entertainment Tax

Additional Customs Duty

Surcharges

State Level VAT

Octroi Tax
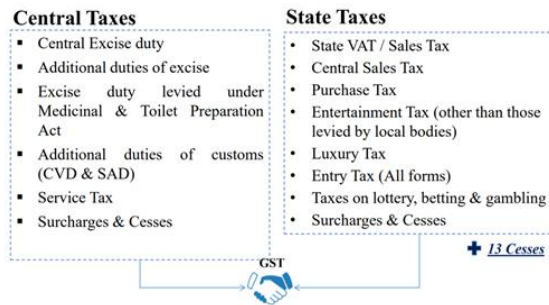
It was implemented on 1st July 2017 through introduction of the Constitution (122nd Amendment) Bill or 101 amendment act 2016 in December 2014.

It created a unified common national market for India, giving a boost to foreign investment and "Make in India" campaign

Components of GST

There are 3 taxes applicable under this system: CGST, SGST & IGST.

CGST: Collected by the Central Government on an intra-state sale (Eg: transaction happening within Uttar Pradesh)

SGST: Collected by the State Government on an intra-state sale (Eg: transaction happening within Uttar Pradesh)

Integrated Goods & Services Tax (IGST): Collected by the Central Government for inter-state sale (Eg: Maharashtra to Uttar Pradesh)

GST Council

As per Article 279A, GST Council is a joint forum of the Centre and the States to regulate GST in India. GST rates are notified on the recommendation of the GST Council. It consists of the following member:

Chairperson: Union Finance Minister (Current- Nirmala Sitharaman)

Member: Union Minister of State, in-charge of Revenue, Min. of Finance

Other Members: Minister In-charge of Finance or Taxation or any other Minister nominated by each State Government

List of items exempted from GST

Eggs, Honey and Milk Products

Oil Seeds, Fruit and Part of Plants

Gums, Resins, Vegetable SAP & Extracts

Sugar, Jaggery, Honey & bubble Gums

Tea & Coffee Extract & Essence

Water, Mineral & Aerated

Flours, Meals & Pellets

Salts & Sands

Fossil Fuels – Coal and Petroleum

Drugs & Pharmaceuticals

Fruits and Dry Fruits

Reforms Brought About by GST

Creation of common national market by amalgamating a large number of Central and State taxes into a single tax.

Mitigation of cascading effect: It mitigated ill effects of cascading or double taxation in a major way and paved the way for a common national market.

Reduction in Tax burden: From the consumers' point of view, biggest advantage would be in terms of reduction in the overall tax burden on goods.

Making Indian products more competitive: Introduction of GST is making Indian products more competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production.

Easier to administer: Because of the transparent and self-policing character of GST, it would be easier to administer.

Challenges

State GST (SCGT) and Central GST (CGST) input credit cannot be cross utilized.

Manufacturing states lose revenue on a bigger scale, so reform is needed keep this in mind

High rate to tax to compensate the revenue collected now from multiple taxes i.e High Revenue Neutral Rate.

There was a reduction in the fiscal autonomy of the States after the GST law

Concerns raised by banks and insurance companies over the need for multiple registrations under GST.

The capacity of State tax authorities, so far used to taxing goods and not services, to deal with the latter is an unknown quantity.

The success of GST depends on political consensus, technology and the capacity of tax officials to adapt to the new requirements.

POST 2014 REFORM: LABOUR REFORM

The Ministry of Labour & Employment is among one of the oldest and crucial Ministries of the Government of India. The major responsibility of this Ministry is the protection and safeguarding the interests of workers with special emphasis on poor, deprived and disadvantage sections of the society. This along with making sure of creating a healthy work environment for enhanced production as well as productivity and further to develop vocational skill training and employment services.

Government Schemes: Ministry of Labour and Employment

Scheme	Objective	Few Points to remember
DEEN DAYAL UPADHYAY SHRAMEV JAYATE KARYAKRAM	Provide a conducive environment for the development of Industries in India and labour reforms.	A dedicated Shram Suvidha Portal: Allocating Labor Identification Number (LIN) to almost six lakhs units and enabling them to

		file online compliance with 16 of 44 labour laws. Transparent Labour Inspection Scheme for random selection of Units for inspection: Utilizing technology to eliminate human discretion in the selection of units for Inspection o Uploading of Inspection Reports within 72 hours of inspection mandatory. Universal Account Number is allotted to EPF beneficiary which makes Provident Fund account portable and universally accessible
PRADHAN MANTRI ROJGAR PROTSAHAN YOJANA	The objective is to incentivize employers to promote employment generation and to provide social security benefits to the workers.	It is being introduced through the Provident Fund Organization of Employees (EPFO) by the Ministry of Labor and Work. Under the scheme, the government pays 12 percent full employers' contribution (to both the Provident Fund for Workers and the Pension Scheme for Retirees) for a period of 3 years for new workers who were enrolled with the EPFO on or after April 1, 2016, with salaries of up to Rs. 15,000 per month. The whole program is online, and AADHAR is based on the application of the scheme with no human interface.
NATIONAL CHILD LABOUR PROJECT SCHEME	The object is to eliminate all forms of child labour. Raising awareness amongst stakeholders and target communities.	The overall Motive of the project is to create an encouraging atmosphere in the target area where children are inspired and encouraged by various interventions to enrol and refrain from working in schools, and alternatives are given to households to increase their income levels.
PLATFORM FOR EFFECTIVE ENFORCEMENT FOR NO CHILD LABOUR (PENCIL) PORTAL	The objective is to foster the creation of a child labour free India, which will seamlessly integrate implementing and monitoring mechanisms for both enforcement of the legislative provisions and effective	It is an online portal that connects the Centre to the state government, district, and to all project societies to combat the menace of child labour and trafficking. It has five components -- Child Tracking System, Complaint Corner, State Government, NCLP, and Convergence.

	implementation of the National Child Labour Project (NCLP).	
NATIONAL CAREER SERVICE	The goal is to bridge the gap between the two who need work and those who want to recruit them, between those who need career guidance and training and those who can offer advice and training.	It is the transformation of National Employment Service to provide a variety of employment-related services like job matching, career counselling, vocational guidance, information on skill development courses, etc. which are offered through the Employment Exchanges The scheme also provides for part funding to states for IT up-gradation as well as minor refurbishing of employment exchanges and for organizing job fairs.
ATAL BIMIT VYAKTI KALYAN YOJNA	It aims to provide unemployment allowance to workers rendered jobless due to the "changing employment pattern."	It is a scheme approved by the Employees' State Insurance Corporation (ESIC) that aims to benefit its subscribers, who are mainly formal sector workers who have become unemployed for whatever reason, by providing cash through bank account transfer.
PM SHRAM-YOGI MAANDHAN YOJANA	The objective is to provide a pension to the unorganized sector.	**Pension:** They shall receive a minimum assured pension of Rs 3000/- per month after the age of 60 years. In case of death during the receipt of a pension, his/her spouse, shall have the right to earn 50 percent of the pension earned as a family pension. In the event of death before the age of 60, his / her spouse shall consequently be entitled to enter and continue the scheme by paying monthly contributions or leaving the scheme as provided for in exit and withdrawal provisions. The family pension is for partners only. **Contribution by the Subscriber:** He/she is required to contribute the prescribed contribution amount from the age of joining PM-SYM till the age of 60 years **Matching contribution by the Central Government:** PMSYM is a voluntary and

		contributory pension scheme on a 50:50 basis where prescribed age-specific contribution shall be made by the beneficiary and the matching contribution by the Central Government.

Agricultural Reform: Schemes

Government Schemes launched by the Government of India with the aim of addressing the socio-economic welfare of the citizens of this nation. Such schemes play a very important role in solving many problems that beset Indian society and helps in achieving the goals to achieve welfare nation as enshrined in our Constitution. In this article, we will look at the complete list of schemes by the Ministry of Commerce & Industry launched in past years along with their objectives and some important features of the scheme. This is very crucial for the preparation of UPSC and State PCS exams as the number of questions from the Government schemes have increased in recent years.

Government Schemes: Ministry of Agriculture & Farmers' Welfare

Scheme Name	Objective	Few Points to remember
Pradhan Mantri Kisan Maan Dhan Yojana	The Scheme provides for payment of minimum pension of Rs 3000 per month to the eligible small and marginal farmers after the age of 60 years	The pension scheme is voluntary and contributory with an entry age of 18 to 40 years The farmer can contribute monthly between Rs.55 to 200. Central Government will also give an equal amount in the pension scheme LIC will be the pension fund manager and responsible for the pension payout.
Pradhan Mantri Kisan Samman Nidhi(PM-KISAN)	The Scheme provides for the transfer of an amount of Rs. 6000/- per year in three equal instalments of Rs. 2000/ The amount will be sent directly into the bank account of beneficiary farmer families.	This is a Central Sector Scheme and will be funded fully by the Government of India. The Scheme initially covered only small and marginal farmer families with landholding up to 2 hectares as beneficiaries, subject to certain exclusion criteria for higher-income status. The Government later extended the Scheme with effect from 1st June 2019 **to all farmer families irrespective of landholding size**, subject to applicable exclusions.

		Farmers through common service centre can register, edit the name on PM KISAN web portal
Soil Health Card Scheme	To issue soil health cards every three years, to all farmers of India, so as to address nutrient deficiencies in fertilization practices	It is a centrally sponsored scheme Soil Health Card issued to farmers carries crop-wise recommendations of nutrients and fertilizers required for the individual farms. It will check the status of his soil with respect to 12 parameters, namely N, P, K (Macronutrients). Based on this, the SHC will also indicate fertilizer recommendations and soil amendments required for the farm.
Kisan Credit Card(KCC)	To provide timely credit support from the banking system under a single window.	The loan disbursed under KCC is broad-based and can be used for short term credit requirements for cultivation of crops, and other expenses The loans disbursed under the Kisan Credit Card Scheme for notified crops are covered under the Crop Insurance Scheme. The Kisan Credit Card has been extended to fisheries and animal husbandry farmers to help them meet their working capital needs. The Scheme covers the risk of KCC holders against death or permanent disability resulting from accidents caused by external, violent and visible means. Self Help Groups(SHGs) and Joint Liability Groups are also eligible for this scheme.
Pradhan Mantri Krishi Sichai Yojana	Its objective is to achieve convergence in irrigation at the field level, To enhance the recharge of aquifers and introduce sustainable water conservation practices.	The convergence of various Scheme such as Accelerated Irrigation Benefit Program, On-Farm Water Management (OFWM), Integrated Watershed Management Programme (IWMP) Long Term Irrigation Fund has been started under Pradhan Mantri Krishi Sichai Yojana in NABARD for funding and fast-tracking

		the implementation of incomplete major and medium irrigation projects. It will be supervised by Inter-Ministerial National Steering Committee (NSC) under Prime Minister with Union Ministers of all concerned Ministries.
PM Fasal Bima Yojana	To provide the stability of income of the farmer To provide insurance facility and financial support to the farmers in the event of natural calamities such as earthquake, pests & diseases. To ensure the flow of credit to the agriculture sector.	Umbrella scheme of the insurance-related Scheme It replaced all other insurance schemes that were existing except the Restructured Weather-Based Crop Insurance Scheme The farmer has to pay a **2% premium for all Kharif crops and a 1.5% premium for all Rabi crops.** In the case of annual **horticultural crops**, the premium to be paid by farmers will be only **5%.** It is compulsory for the loanee farmer and voluntary for the non-loanee farmer Post-harvest losses are also covered Recently, the Government has comprehensively revised the Operational Guidelines of the Scheme. The farmers will get 12% interest by the insurance companies for the delay in settlement claims after two months of the prescribed cut-off date.
Strengthening and modernization of the pest management approach in India(SMPMA)	The aim is to minimize environmental pollution in soil, water, and air due to pesticides Minimize occupational health hazards due to chemical pesticides	It is a central sector scheme launched with the following components Integrated Pest Management Locust Control and Research Implementation of Insecticides Act, 1968

		Implementing agency- 35 central Integrated Pest Management Centres
Interest Subvention Scheme	To provide short term crop loans at an affordable rate to give a boost to agricultural productivity and production in the country	It provides a concession of 2% per annum for short-term crop loans to farmers, up to Rs. 3 lakh at a 7% rate of interest. An additional interest subvention of 3 percent per annum is given to the "prompt payee farmers."
PM Annadata Aay Sanrakshan Abhiyan(PM-AASHA)	To plug the gaps in the procurement system, address issues in the MSP system and give better returns to the farmer	It has three components complementing the existing schemes of the Department of Food and Public distribution for the procurement of paddy, wheat, and other cereals and coarse grains where procurement takes place at MSP. **3 Components:** Price Support system(PSS) Price Deficiency Payment Scheme(PDPS) The pilot of private procurement and stockiest Scheme (PPSS) **PSS:** Under the PSS, physical procurement of pulses, oilseeds and copra are to be done by Central Nodal Agencies. Besides, NAFED and Food Cooperation of India(FCI) will also take up the procurement of crops under the PSS. The expenditure and losses due to the procurement will be borne by the Centre. **PDPS:** Under the PDPS, the Centre proposes to cover all oilseeds for which MSP is notified. The difference between the MSP and actual selling/modal price will be directly paid into the farmer's bank account.

		This scheme doesn't involve any physical procurement of crops as farmers are paid the difference between the MSP price and Sale/modal price on disposal in the notified market. **PPSS:** In the case of oilseeds, States will have the option to roll out PPSSs in select districts. Under this, a private player can procure crops at MSP when market prices drop below MSP and whenever authorized by the state/UT government to enter the market. The private player will then be compensated through a service charge up to a maximum of 15% of the MSP.
National Agricultural Higher Education Project	To attract talent and strengthen higher agricultural education in India	World Bank and the Indian Government are doing a project on a 50:50 basis. The aim of the National Agricultural Higher Education Project for India is to support agricultural universities and ICAR in providing higher quality education to Agricultural University students. In addition, a four-year degree in Agriculture, Horticulture, Fisheries, and Forestry has been declared a professional degree.
Krishi Kalyan Abhiyan	To assist and advice farmers on how to improve farming techniques and raise their incomes	It was undertaken in 25 villages with more than 1000 population each in aspiration districts identified with the help of the Ministry of Rural Development as per the direction of NITI Aayog.
ARYA Project	To attract and empower the Youth, in particular, the rural Areas to take up various Agriculture, allied and service sector enterprises for income and gainful employment in selected districts	The GOI launched ARYA – "Attracting and Retaining Youth in Agriculture" in 2015. It is implemented through Krishi Vigyan Kendra in one district from each State.

		Agricultural Universities and ICAR Institutes will work as Technology Partners with KVKs In a district, 200-300 Rural youths will be selected for their skill development in entrepreneurial activities and establishment of related micro-enterprise units
National Food Security Mission	Increasing the production of rice, wheat, pulses, coarse cereals, and commercial crops with the help of area expansion and productivity increase in a sustainable manner	It is a Centrally Sponsored Scheme launched with the objective to enhance the production of Rice, Wheat, Coarse Cereals, Pulses and also commercial crops (Jute, Cotton and Sugarcane). Funding - 50:50 by Centre & State for food crops while 100% funding by centre for cash crops. It was launched in 2007.
Rashtriya Krishi Vikas Yojana-RAFTAAR	To make farming a remunerative economic activity by strengthening the farmer's efforts, and promoting agri-business	It was started in 2007 as an umbrella scheme for the holistic development of agriculture and allied sectors, has been recently revamped as RKVY-RAFTAAR(Remunerative approaches for agriculture and allied sector rejuvenation for 2017-19 and 2019-20)
National Mission on Agricultural Extension and Technology	To make the extension system farmer driven	It is an umbrella scheme It envisages strengthening the extension machinery through 4 sub-schemes: Sub Mission on Agricultural Extension (SMAE) Sub Mission on Seed and Planting Material (SMSP) Sub Mission on Agricultural Mechanization (SMAM) Sub Mission on Plant Protection and Plant Quarantine (SMPP)
National Mission on Bovine Productivity	To enhance milk production and productivity	It was launched in 2016 to boost milk production and increase productivity and making dairy more remunerative for farmers.

		The Scheme is being implemented through the following four components
		Pashu Sanjivani
		Advanced Reproductivity technique
		E-Pashu Haat portal
		Establishment of National Bovine Genomic Centre for Indigenous Breeds
Rashtriya Gokul Mission	Enhancement of milk production and productivity	Breed improvement program for indigenous breeds to improve their genetic makeup and increase the stock
		Upgradation of cattle using elite indigenous breeds like Gir, Sahiwal, Rathi, Deoni, Tharparkar, Red Sindhi
		Establishment of Integrated Indigenous Cattle Centres or Gokul Grams in the native breeding tracts of indigenous breeds.
		The Scheme is implemented on 100% grant-in-aid basis
Blue revolution: Integrated development and Management of Fisheries	To fully tap the total fish potential of the country both in the inland and the marine sector and triple the production by 2020	It is a Core Centrally Sponsored Scheme on Blue Revolution (the Neel Kranti Mission).
		It is an umbrella scheme formulated by merging all the existing schemes
		It aims at enhancing fish production from 107.95 lakh tonne (2015-16) to about 150 lakh tonne by the end of 2019-20.
Zero Hunger Program	The program aims to address the intergenerational and multifaceted malnutrition through sectoral coordination	It will act as a model of an integrated approach to deal with hunger and malnutrition
National Agricultural Market(NAM)	Increases farmers' options to sell and access to markets Liberal licensing of traders, buyers, and agents. A single	NAM is a pan-India electronic trading portal that aims to network the existing APMCs and other market systems to create a unified

		national market for agricultural commodities. Small Farmers Agribusiness Consortium (SFAC) has been selected as the main agency to implement it. Central Government will give the software free of cost to the states, and with this, a grant of Rs. 30 lakhs per mandi or market or private mandis will be given for related equipment and infrastructure requirements. 585 wholesale regulated markets/ APMC Markets have been so far integrated with the e-NAM platform in 16 States and 2 Union Territories (UTs). For the local trade in the mandi/market, NAM provides the opportunity to access a larger national market for secondary trading. The first inter-state trade on e-nam was carried out between Andhra Pradesh and Telangana
	license for traders is valid across all markets in the State.	
National Innovations on climate-resilient agriculture	The aim is to enhance the resilience of Indian Agriculture covering crops, livestock and fisheries to climate change	It is a network of projects of ICAR It takes into account the critical assessment of different crops in the country for the vulnerability of rainfall
Mission Fingerling		Under this mission, potential states are to be identified in order to strengthen the fish seed infrastructure as well as facilitate the establishment of hatcheries and Fingerling rearing pond.
Project CHAMAN	development to the horticulture sector for increasing farm's income	It is implemented by the National Crop Forecast Centre (MNCFC) using the remote sensing technology The Geo-Spatial Studies like crop intensification, orchard rejuvenation and aqua-horticulture are deployed for preparing reliable estimates of crop production.

Industrial Development: Post 2014

Government Schemes: Ministry of Commerce & Industry

Scheme	Objective	Points to remember
Startup India	The aim is to build a strong ecosystem nurturing innovations and startups in India	The Action Plan is based on three pillars – Simplification and handholding Funding support and incentives Industry-academia partnership and incubation. Department of Promotion of Industry and Internal trade (DPI&IT) (formerly DIPP) is the implementing agency.
Make in India	The objective is to promote India as an important manufacturing design and innovation	The "Make in India" initiative is based on four pillars New Processes New Infrastructure New Sectors New Mindset Department of Promotion of Industry and Internal trade (DPI&IT) coordinates action plans for 15 manufacturing sectors while the Department of Commerce coordinates 12 service sectors.
Trade Infrastructure for the export scheme	To enhance export competitiveness by bridging gaps in export infrastructure, creating focused export infrastructure, first mile and last-mile connectivity and export-oriented projects	It would provide financial assistance for setting up and up-gradation of existing infrastructure with export linkages like border haats, cold chains, dry ports, etc
Government e-marketplace	To facilitate the procurement of goods and services by various central and state Government.	It aims to bring transparency and efficiency in public procurement. GeM provides the tools of e-bidding, reverses e-auction to facilitate the government users to achieve the best value for their money. I

		GeM 3.0 was announced which would offer standardized and enriched catalogue management, powerful search engine, real-time price comparison, user rating, advanced MIS and analytics
Merchandise Exports From India Scheme	It is an export-promotion scheme launched under the Foreign Trade Policy (FTP) 2015-20 to reduce infrastructural inefficiencies and associated costs involved in exporting goods that are manufactured in India.	It has replaced five different schemes of earlier FTP (Focus Product Scheme) Market Linked Focus Product Scheme Focus Market Scheme Agri. Infrastructure Incentive Scrip Vishesh Krishi and Gram Udyog Yojana) for rewarding merchandise exports, which had varying conditions (sector-specific or actual user only) attached to their use. The scheme provides incentives to the exporter in the form of credit scrip It helps to compensate for any losses on payment of duties
Service Exports from India Scheme (SEIS)	To promote export of service from the country	The scheme was launched under the Foreign Trade Policy (FTP), 2015-20 replacing the earlier scheme 'Served from India Scheme.' SEIS shall apply to `Service Providers' located in India instead of `Indian Service Providers'. Thus, it rewards to all Service providers of notified services, who are providing services from India, irrespective of the constitution or profile of the service provider.

'SWAYATT' initiative	SWAYATT is an initiative to promote Startups, Women and Youth Advantage Through transactions on Government e-Marketplace (GeM)	It will bring together the key stakeholders within the Indian entrepreneurial ecosystem to Government e-Marketplace, the national procurement portal
Integrate to Innovate Programme	It is a 3-month corporate acceleration program for energy startups	The selected startups will get a cash prize of up to ₹ 5 Lakh per startup along with an opportunity to sell their product with corporates
eBiz	To bring transparency	It will serve as a 24X7 online single-window system for efficient and convenient Government to business (G2B) services to investors and businesses It reduces the complexity in obtaining information and services related to starting businesses in India and dealing with licenses and permits across the business life-cycle. It is being implemented by Infosys Technologies Limited (Infosys) under the guidance and aegis of the Department of Promotion of Industry and Internal trade (DPI&IT)
Revenue Insurance Scheme for Plantation Crops	insurance scheme for those plantation crops whose insurance can't be availed from PM Fasal Bima Yojna.	It covers small growers of Rubber, Tobacco, Tea, Coffee and Cardamom having 10 hectares or less landholding. The scheme is compulsory for growers registered with the respective Commodity Boards (CBs) and it is implemented on a pilot basis in 7 states. The scheme to be operated on the principle of 'Area Approach' and Commodity Board in consultation with the concerned State Govt shall designate an area as Insurance Unit (IU), which can be a village panchayat or any other equivalent unit. Losses arising out of war & nuclear

		risk, malicious damage and other preventable risks are excluded. **Note:** PSF for pulses and Agri-horticultural commodities is under Ministry of Consumer Affairs

General Science
PHYSICS

WORK
Work is said to be done, if force acting on a body is able to actually move it through some distance in the direction of the force. Its SI unit is a **joule**.

ENERGY
Energy is a scalar quantity and its unit is **Joule**.

The sum of all kinds of energies in an isolated system remains constant at all times. This is the law of conservation of energy.

POWER
Its unit is **watt**.
·   **1 watt hour** = 3600 Joule
·   **1 kilowatt hour** = 3.6×10^6 joule
·   **1HP** = 746 watt

GRAVITATION
Everybody in the universe attracts other body by a force called force of gravitation.

The gravitational force of the earth is called **gravity**.

The acceleration produced in a body due to force of gravity is called **acceleration** due to gravity (g) and its value **is 9.8 m/s'**

Acceleration due to gravity is independent of shape, size and mass of the body.

Escape velocity is the minimum velocity with, which an object just crosses the Earth's gravitational field and never returns. Escape velocity at the Earth's surface is **11.2 km/s.**

Escape velocity at the **Moon's** surface is **2.4 km/s.** Due to low escape velocity there is no atmosphere on the moon.

Value of g decreases with height or depth from Earth surface.

g is maximum at **poles**.

g is minimum at **equator**.

g decreases due to **rotation of Earth**.

g decreases if angular speed of Earth increases and increases if angular speed of Earth decreases.

The acceleration due to gravity at the moon is **one-sixth** that of the Earth. So, the weight of a person on the surface of the moon will be **1/6** of his actual weight on the Earth.

SATELLITE
Satellites are natural or artificial bodies revolving around a planet under its gravitational force of attraction.

Moon is a **natural satellite**, while **INSAT-B** is an artificial satellite of Earth.

The period of revolution of satellite revolving near the surface of earth is 1 hour 24 minutes (34 minutes).

Geo-stationary satellite revolves around the Earth at a height 36000 km (approx).

Time period of rotation of geo-stationary satellite is 24 hours.

The Earth rotates on its axis from **West to East**. This rotation makes the Sun and the stars appear to be moving across the sky from **East to West**.

A **geosynchronous satellite** is a satellite in geosynchronous orbit, with an orbital period the same as the Earth's rotation period.

A special case of geosynchronous satellite is the **geostationary satellite**, which has a geostationary orbit – a circular geosynchronous orbit directly above the Earth's equator.

Geo-stationary satellite is used to telecast. TV programmes from one part of the world to another, in weather forecasting, in predictions of floods and droughts.

Polar Satellite Revolves around the earth in polar orbit at a height of **800km** (app.) Time periods of these satellites is **84 min**.

ATOMIC AND NUCLEAR PHYSICS

Cathode Rays

Cathode rays, discovered by Sir William Crooke and its properties are
travel in **straight lines.**
Produce fluorescence.
can penetrate through thin foils of metal and deflected by both electric and magnetic fields.
have velocity ranging **1/30th** to **1/10th** of the velocity of light.

Positive or Canal Rays
These rays were discovered by **Goldstein**.
The positive ray consists of **positively charged particles**.
These rays travel in **straight line.**
These rays are deflected by **electric and magnetic fields.**
These rays can produce ionization in gases.

X-Rays
X-rays are electromagnetic waves with wavelength **range 0.1 A-100 A.**
X-rays were discovered by **Roentgen**.
X-rays travels in **straight line.**
Long exposures of X – rays in injurious for human body.
X – rays shows **photoelectric effect.**

Uses of X-Rays
In medical sciences X-rays are used in surgery for the detection of fracture, diseased organs, foreign matter like bullet, stones etc. They are used in treatment of cancer and in skin diseases.
In Engineering, X-rays are used in detecting faults, cracks, flaws and gas pockets in the finished metal products and in heavy metal sheets.
In Scientific Work, X-rays are used in studying crystal structure and complex molecules.
In Custom Department X-rays are used in custom department for detection of banned materials kept hidden.

Radioactivity
Radioactivity was discovered by **Henry Becquerel, Madame Curie** and **Pierre Curie** for which they jointly won Nobel Prize.

Nuclear Fission
Atom Bomb is based on nuclear fission. U^{235} and Pu^{239} are used as fissionable material.

Nuclear fission was first demonstrated by Halin and Fritz Strassmann.

Nuclear Fusion

When two or more light nuclei combined together to form a heavier nucleus is called as **nuclear fusion**. For the nuclear fusion, a temperature of the order of 10^8 **K** is required.

Hydrogen Bomb was made by the American Scientist in **1952**. This is based on **nuclear fusion**. It is **1000** times more powerful than atom bomb.

Nuclear Reactor or Atomic Pile

Nuclear reactor is an arrangement, in which controlled nuclear fission reaction takes place.

First nuclear reactor was established in Chicago University under the supervision of **Prof Enrico Fermi**.

Heavy water, graphite and beryllium oxide are used to slow down the fast moving neutrons. They are called moderate.

Uses of Nuclear Reactor

(i) To produce electrical energy from the energy released during fission.

(ii) To produce different isotopes, this can be used medical, physical and agriculture science.

There are several components of nuclear reactor which are as follows

Fissionable Fuel U^{235} or U^{239} is used.

Moderator decreases the energy of neutrons, so that they can be further used for fission reaction.

Heavy water and graphite are used as moderator.

Control Rod rods of cadmium or boron are used to absorb the excess neutrons produced in fission of uranium nucleus, so that the chain reaction.

NEWTON'S LAWS OF MOTION

First Law: Everybody maintains its initial state of rest or motion with uniform speed on a straight line unless an external force acts on it. It is also called Galileo's law or law of inertia.

Example: While jumping from a slowly moving train/bus one must run for short distance, in the direction of motion.

Second Law: The form acting on an object is directly proportioned to the product of the mass of the object and the acceleration produced on it.

Third Law: To every action, there is an equal and opposite reaction.

Example : Bogies of the trains are provided with buffers to avoid severe jerks during shunting of trains. Rocket moves up due to reaction of downward ejection of gas.

CIRCULAR MOTION

When an object moves along a circular path, its motion is called circular motion.

The external force required to act radially inward over the circular motion of the body is called **Centripetal force.**

Centrifugal force is such a pseudo force that. is equal and opposite to **Centripetal force.**

Cream separator, centrifugal dryer work on the principle of centrifugal force.

FRICTION

In the opposing force that is set-up between the surfaces of contact, when one body slides or rolls or tends to do so on the surface of another body.

Due to friction, we are able to move on the surface of Earth.

While applying brakes in automobiles, it stops only due to friction.

Pascal's Law of Pressure
• Hydraulic lift, hydraulic press and hydraulic brakes are based on the **Pascal's law of pressure.**

Archimedes Principle
When a body is immersed partly or wholly in a liquid, there is an apparent loss in the weight of the body, which is equal to the weight of liquid displaced by the body.

The weight of water displaced by an iron ball is less than its own weight. Whereas water displaced by the immersed portion of a ship is equal to its weight. So, small ball of iron ball sink in water, but large ship float.

A fat person will quickly learn the swimming as compared to a slim person because he will displace more water. So, it will be more balanced.

Hydrogen filled balloon float in air because hydrogen is lighter than air. A person can lift more weight in water.

WAVE

A wave is a disturbance, which propagates energy from one place to the other without the transportation of matter.

Waves are broadly of two types:
· Mechanical wave (longitudinal wave and transverse wave)
· Electromagnetic wave
· Following are the electromagnetic (Non-mechanical) waves-
a. Gama rays (**Highest frequency**)
b. X-rays
c. UV rays
d. Visible radiation
e. infra-red rays
f. short radio waves
g. Long radio waves (**Lowest frequency**)
All are in decreasing order of the frequency
Following waves are not electromagnetic.
a. Cathode rays
b. Canal rays
c. alpha rays
d. beta rays
e. sound wave
f. ultrasonic wave

Longitudinal Waves
In this wave the particles of the medium vibrate in the direction of propagation of wave.
Waves on springs or sound waves in air are examples of longitudinal waves.

Transverse Waves
In this wave, the particles of the medium vibrate perpendicular to the direction of propagation of wave.
Waves on strings under tension, waves on the surface of water are the examples of transverse waves.

Electromagnetic Waves

The waves, which do not require medium for their propagation i.e., which can propagate even through the vacuum are called electromagnetic waves.

Light radio waves, X-rays etc are the examples of electromagnetic wave. These waves propagate with the velocity of light in vacuum.

Sound Waves

Sound waves are longitudinal mechanical waves. Eased on their frequency range sound waves are divided into following categories.

The sound waves which lie in the frequency range 20 Hz to 20000 Hz are called audible waves.

The sound waves having frequencies less than 20 Hz are called infrasonic

The sound waves having frequencies greater than 20000 Hz are called ultrasonic waves.

Ultrasonic waves are used for sending signals, measuring the depth of see, cleaning clothes and machinery parts, remaining lamp short from chimney of factories and in ultrasonography.

Speed of Sound

Speed of sound is **maximum in** solids **minimum in** gases.

When sound goes from one medium to another medium, its speed and wave length changes, but frequency remain unchanged. The speed of sound remains unchanged by the increase or decrease of pressure.

The speed of sound increases with the increase of temperature of the medium.

The speed of sound is more in humid air than in dry air because the density of humid air is less than the density.

Echo: The repetition of sound due to reflection of sound waves is called an echo.

Intensity: It is defined as amount of energy passing normally per unit area held around that point per source unit time.

Pitch: The sensation of a frequency is commonly referred to as the pitch of a sound.

Sonar: It stands for sound navigation and ranging. It is used to measure the depth of a sea, to locate the enemy submarines and shipwrecks.

LIGHT

Light is a form of energy, which is propagated as an electromagnetic **wave**.

It is the radiation which makes our eyes able to 'see' the object. Its speed is **3 x 108 m/s**. It is the form of energy. It is a **transverse wave**.

It takes **8 min 19s** to reach on the earth from the sun and the light reflected from moon takes **1.28s** to reach earth.

Primary Colours- Blue, Red, Green

Secondary Colours- The coloured produced by mixing any two primary colors

Complementary Colours- Any two colours when added produce white light.

Blue colour of the sky is due to scattering of light.

The brilliant red colour of rising and setting sun is due to scattering of light.

Human Eye

Least distance of distinct vision is 25 cm.

Myopia or short sightedness- far objects cannot see clear

Hyperopia or hypermetropia or Long-sightedness- Near objects cannot see clear

Presbyopia- in elder person, both far and near cannot see clear

Reflection of Light
When a ray of light falls on a boundary separating two media comes back into the same media, then this phenomenon is called reflection of light.

Spherical Mirror
Spherical mirrors are of two types
1. **Concave mirror**
2. **Convex mirror**

Image formed by a convex mirror is always virtual, erect and diminished.
Image formed by a concave mirror is generally real and inverted.

Uses of Concave Mirror
(i) As a shaving mirror
(ii) As a reflector for the head lights of a vehicle, search light
(iii) In ophthalmoscope to examine eye, ear, nose by doctors.
(iv) In solar cookers.

Uses of Convex Mirror
(i) As a rear-view mirror in vehicle because it provides the maximum rear field of view and image formed is always erect.
(ii) In sodium reflector lamp.

Refraction of Light
The bending of the ray of light passing from one medium to other medium is called refraction. When a ray of light enters from one medium to other medium, its frequency and phase do not change, but wavelength and velocity change. Due to refraction form Earth's atmosphere, the stars appear to twinkle.

Total Internal Reflection
Sparkling of diamond, mirage and looming, shinning of air bubble in water and optical Fiber are examples of total internal reflection.

Power of a lens
Power of a lens is its capacity to deviate a ray. It is measured as the reciprocal of the focal length in meters.
SI Unit of Power is diopter.

ELECTRICITY AND MAGNETISM

Charge
Charge is the basic property associated with matter due to which it produces and experiences electrical and magnetic effects. Similar charges repel each other and opposite charges attract each other. The SI unit of charge is **coulomb**.

Conductor: Conductors are those materials, which allow electricity to pass through them. Metals like silver, iron, copper and earth acts like a conductor. Silver is the best conductor.

Insulator: Insulators are those materials which do not allow electricity to flow through them. Metals like wood, paper, mica, glass, ebonite are insulators.

Electric Current

Its unit is Ampere. It is a scalar quantity.

An electric bulb makes a bang when it is broken because there is a vacuum inside the electric bulb, when the bulb is broken air rushes at great speed from all sides to fill the vacuum. The rushing of air produces a noise generally referred to as the bang.

A Galvanometer can be converted into an ammeter by connecting a shunt parallel to it.

The sodium and mercury street lamps light up due to atomic emission.

The purpose of choke coil in fluorescent is to produce high voltage to ionize the gas in the tube required for high current to flow through filament.

Magnetism

Diamagnetic substance- when placed in magnetic field, acquire feeble magnetism opposite to the direction of the magnetic field.

Examples- Gold, Diamond, Copper, Water, Mercury etc.

Paramagnetic substance- when placed in magnetic field, acquire feeble magnetism in the direction of the magnetic field.

Example- Al, Na, Mn etc.

Ferromagnetic substance-when placed in magnetic field, are strongly magnetized in the direction of the magnetic field.

Examples- Iron, Cobalt, Nickle

Curie temp- the Curie temperature (TC), or Curie point, is the temperature at which certain materials lose their permanent magnetic properties, to be replaced by induced magnetism.

Isogonic lines are lines on the Earth's surface along which the declination has the same constant value, and lines along which the declination is zero are called **agonic lines**.

Isoclinic lines are imaginary lines on the earth's surface connecting points where the earth's magnetic field has the same angle.

The aclinic line is the magnetic equator, where the magnetic field is inclined neither north or south, so it's a special case of an isoclinic line.

Isodynamic line- A line on a map connecting points of equal strength of the earth's magnetic field.

Surface Tension and capillary

Lubricating oil spread easily on all parts because of their low surface tension.

Dirt get removed when detergents are added while washing clothes because surface tension of water is reduced.

The absorption of ink by a blotting paper is due to capillary action

The supply of water to the leaves at the top of even a tall tree is through capillary rise.

Heat

Unit of heat-
 C.G.S- Calorie
 F.P.S- British Thermal Unit (B. Th. U)
 Absolute Zero Temp- minus 273 K (-273 K)
 1 calorie= 4.2 J

The specific heat is the amount of heat per unit mass required to raise the temperature by one degree Celsius.

Newton's Law of Cooling states that the rate of change of the temperature of an object is proportional to the difference between its own temperature and the ambient temperature (i.e. the temperature of its surroundings).

Hoar Frost-is the reverse process of sublimation.

MEASUREMENT UNITS

Angstrom : For measuring length of light waves

Barrel : For measuring liquids. One barrel is equal to 31½ gallons or 7,326.5 cubic inches

Cable: For measuring length of cables. It is about 183m. in length

Carat : Used for measuring precious stones. It is also a measure for the purity of gold alloy

Fathom : It is used for measuring depth of water. One fathom is equal to 4 inches

Knot: For measuring speed of ships

SOME CONVERSION FACTORS

Mass and Density

· 1 Kg = 1000 g = 6.02 u
· 1 Slug = 14.6 kg
· 1 u = 1.66 kg

Length and Volume

· 1 m = 100 cm = 39.4 inch = 3.28 ft
· 1 mile = 1.61 km = 5280 ft
· 1 inch = 2.54 cm
· 1 nm = m = 10 A
· 1 pm = m = 1000 fm
· 1 light year = 9.46 m
· 1 = 1000 L = 35.3 = 264 gal

Angular Measure

· 1 m/s = 3.28 ft/ s = 2.24 mi / h
· 1 km / h = 0.621 mi / h = 0.278 m/s

Force and Pressure

· 1 lb = 4.45 N
· 1 ton = 2000 lb
· 1 Pa = 1 N/ = 10 dyne/ = 1.45 lb/
· 1 atm = 1.01 x 10^5 Pa = 14.7 lb/ = 76 cm – Hg

SOME IMPORTANT SCIENTIFIC INSTRUMENTS

Accumulator: Electrical energy is stored
· **Altimeter**: Used in aircraft for measuring altitudes
· **Ammeter**: Measuring the electrical current in amperes
· **Anemometer**: Measuring the strength of winds
· **Audiometer**: Measuring intensity of wind

· **Audiophone:** It is used for improving imperfect sense of hearing.
· **Barometer**: Measuring atmospheric pressure
· **Binocular**: An optical instrument designed for magnified view of distant objects by both eyes simultaneously
· **Bolometer**: To measure heat radiation
· **Cardiogram**: For recording the heart movements
· **Calorimeter**: Measuring of quantities of heat
· **Chronometer**: A clock that keeps very accurate time as the one that is used to determine longitude at sea.
· **Colorimeter**: An instrument for comparing intensities of colour.
· **Commutator**: An instrument to change or remove the direction of an electric current, in dynamo used to convert alternating current into direct current.
· **Cyclotron**: Studying the properties of atoms by smashing them.
· **Dynamo**: A device for converting mechanical energy into electrical energy
· **Dynamometer**: An instrument for measuring the electrical power
· **Electroscope**: An instrument for detecting the presence of electric charge.
· **Endoscope**: To examine internal parts of the body
· **Fathometer:** Measure depth of the ocean
· **Galvanometer**: For detecting and measuring electric current
· **Hygrometer**: Measure level of humidity
· **Phonograph**: For reproducing sound
· **Pyrometer**: Measure very high temperature
· **Quartz Clock**: A highly accurate clock used in astronomical observations and other precision work
· **Radiometer**: An instrument for measuring the emission of radiant energy
· **Radio Micrometer**: An instrument for measuring heat radiations
· **Rain Gauge**: An instrument for measuring rainfall
· **Rectifier**: An instrument used for the conversion of AC into DC.
· **Refractometer**: An instrument used to measure the refractive index of a substance
· **Resistance Thermometer**: Used for determining the electrical resistance of conductors
· **Salinometer**: A type of hydrometer used to determine the concentration of salt solutions by measuring their densities
· **Seismometer (Seismograph)**: An Apparatus for measuring and recording earthquake shock
· **Sextant**: For guiding ships or surveying land.
· **Spectroscope**: An instrument used for spectrum analysis
· **Speedometer**: It registers the speed at which the vehicle is moving
· **Spherometer**: For measuring curvature of surfaces
· **Sphygmomanometer**: An instrument used to detect blood pressure in a human body. It is also called B.P.Apparatus
· **Sphygmophone**: Instrument with the help of which, a pulse beat makes a sound
· **Spring Balance**: Useful for measuring weight
· **Stereoscope:** It is used to view two dimensional pictures.
· **Stethoscope:** An instrument which is used by the doctors to hear and analyze heart and lung sounds.
· **Stroboscope**: It is used to view rapidly moving objects.
· **Tachometer:** An instrument used in measuring speeds of aero planes and motor boats.
· **Teleprinter:** This instrument receives and sends typed messages from one place to another.
· **Telescope:** It views distant objects in space.

· **Theodolite:** It measures horizontal and vertical angles.
· **Transistor**: A small device which may be used to amplify currents and perform other functions usually performed by a thermionic valve
· **Viscometer**: For measuring viscosity
· **Voltmeter**: To measure potential difference between two points
· **Udometer**: Rain guage

CHEMISTRY

MATTER
· **In general it exists in 3 states i.e.,**

    (i)   Solid
    (ii)   liquid
    (iii)   gas.

· Now-a-days there is a discussion on two more states of matter i.e., **Plasma** (Ionised gases containing super energetic and super excited particles and **Bose-Einstein** condensates or BEC (a gas at super low temperatures with extremely low density).

Boiling Point
The temperature at which liquid converts in to vapours is called its boiling point.
Boiling point **of water is 100°C.**
The boiling point **increases in the presence of impurities**. That's why boiling point of **sea water is more than the boiling** point of pure water (as the former contains impurity).
It usually decreases at high altitudes, that's why at high altitudes, the boiling point of water is less than 100°C and more time is required to cook a food.

Melting Point
It is a temperature at which a substance **converts from its solid state to liquid state**.
Melting point **of ice is 0°C;** It decrease in the presence of impurity

Atom, Molecule and Element
Atom is the smallest particle of a matter that takes part in chemical reactions, but cannot exist in free state.
Atom is made 43 of electrons, protons and neutrons.
Protons and neutrons reside in the nucleus **(at the centre of atom)** whereas electrons revolve around the nucleus.
Atoms combine to form molecules, the smallest part of matter which can exist in free state.

Isotopes and Isobars

Isotopes have the same number of protons *(i.e.,* atomic number), but different number of neutrons and mass number (atomic number + number of neutrons), *e.g.,* **1111, 1H2.**
Isobars have the same mass number but different atomic number.
Example: 18Ar40, 19K40

Dating Techniques

Radiocarbon dating is used to **determine the age of carbon** bearing materials like wood, animal fossils etc.

Uranium dating is used to **determine the age of Earth, minerals and rocks.**

Battery

Battery is a device, used to convert **chemical energy into electrical energy** and is of two types

(i) Primary batteries (non-rechargeable) act as galvanic cell, e.g., dry cell, mercury cell etc.

(ii) Secondary Batteries: (rechargeable) Act as galvanic as well as voltaic cell E.g., lead storage battery, nickel cadmium battery etc.

Corrosion

The oxidative deterioration of a metal surface by the action of environment is called **corrosion**, an electrochemical process.

When **iron exposed in to air, iron surface turns brown** due to the formation of **hydrated** ferric oxide (**Fe203.xH20**) which is also called rust,

Silver - Surface turns black due to the formation of **silver sulphide (Ag2S)**

Renewable Non-renewable Natural Resources

Renewable resources are available in large excess, i.e., never ends, **e.g,** air, sunlight etc.

Non-renewable resources are available in limited quantity and end, if used excessively, after a limited period of time**. e.g.,** mineral, coal, petroleum, natural gas etc.

Fuels

The substance, which produce heat and light on combustion are called fuels.

A strong foul smelling substance, called ethyl mercaptan is added to LPG to detect its leakage as LPG is an odourless gas.

Some important fuels and their compositions

Fuel	Composition	Sources
Water Gas	Carbon monoxide (co) + hydrogen(h2)	By passing stream over red hot coke
Producer Gas	Carbon monoxide (CO) + Nitrogen (N2)	By passing insufficient air over red hot coke
Coal Gas	Hydrogen + methane + Ethylene + Acetyene + CO +Nitrogen	By fractional distillation
Natural Gas	Methane(83%) + Ethane	From petroleum
Liquefied Petroleum Gas (LPG)	Butane (CH4) 95%	From petroleum

Compressed Natural Gas (CNG)	Methane (CH4) 95%	From petroleum
Biogas or Gobar Gas	Methane (CH4) + Carbon dioxide (CO2) + Hydrogen (H2)+ Nitrogen (N2)	From organic wastes

Physical and Chemical Changes

Physical changes are the change, which only affect the physical properties like colour, hardness, density, melting point etc. of matter, but do not affect the composition and chemical properties of matter.

A physical change is temporary, while a chemical change is **permanent**.

Crystallisation, sublimation, 'boiling, melting, vaporisation, cutting of trees, dissolving sugar or salt in water etc. are physical changes.

Chemical changes affect the composition as well as chemical properties of matter and result in the formation of a new substance.

Burning of fuel, burning of candle and paper, electrolysis of water, photo synthesis, ripening of fruits etc, are examples of chemical changes

Coal is obtained by carbonization of vegetable matter and is available in different varieties:

Peat- 60% C
Lignite or Brown Coal – 70% C
Bituminous – 60 to 80 % C
Anthracite Coal – 90% C
Fame

Flame contains three parts

1. **Innermost Part**- which is black due to the presence of unburned carbon particles- has lowest temperature.
2. **Middle part** – is yellow due to incomplete of fuel.
3. **Outermost part**- which is blue due to complete combustion of fuel is the hottest and used by goldsmith to heat the gold.

Fire Extinguishers

Water extinguishes fire because as it evaporates**,** the vapours surround the burning substance, cutting off the oxygen supply, thus inhibiting burning process.

In case of electrical or oil (petrol) fires, water cannot be used as extinguisher. This is because water is a conductor of electricity and heavier than oil. Thus, oil floats over it and continues to burn.

Carbon dioxide, which is generated by the reaction of baking soda with acid, is used extinguish electrical or oil fires. Quality of petrol is measured in terms of octane number and that of diesel in terms of cetane number.

Safety Matches

In safety matches, the stick consists of mixture of antimony trisulphide and potassium chlorate at its one end. The box side contains a mixture of powdered glass and phosphorus.

Acids, Bases and Salts

Acids

These are the substance, which **have sour taste** and turn blue litmus red.

These are **good conductor of electricity** in aqueous solution.

Pickels are always kept in glass jar because acid present in them reacts with metal to **produce hydrogen gas.**

Bases

These are the substances, **which have bitter taste and turn red litmus**, blue.

They give different colours in acid and base solutions.

Salts

These are the product of neutralisation reaction between an acid and a base.

pH is the measure of acidity/basicity.

INORGANIC AND ORGANIC CHEMISTRY

Carbon Dioxide

It is an acidic oxide of carbon and is used by green plants for photosynthesis. It does not help in burning.

Air and our breath contain carbon dioxide. Thus, when lime water is kept in air or we pass our breath into it, the lime water turns milky.

Carbon Monoxide

· It is a neutral oxide of air and has more affinity towards haemoglobin than oxygen (about 200 times more). That's why in the environment of carbon monoxide – which is a non- poisonous gas - people die for the need of oxygen.

It is dangerous to sleep in an unventilated room with fire burning inside because the fire produces carbon monoxide and carbon dioxide gases.

Plaster of Paris

It is chemically calcium sulphate hemihydrate ($CaSO_4.1/2H_2O$) and is prepared by heating gypsum – which is calcium sulphate dehydrate ($CaSO_4.2H_2O$) at 373 K.

On Mixing with water, plaster of Paris further sets into a hard solid, called gypsum. Thus, it is used to plaster fractured bones, for making toys, materials for decoration and for making surfaces smooth.

Portland Cement

It is a complex mixture of silicates and aluminates of calcium with small amount of gypsum. Raw materials used for the manufacture of Portland cement are **limestone and clay.**

The composition of Portland cement is calcium oxide (50-60%), alumina (5-10%), and magnesium oxide (2-3%). Gypsum is added to cement to decrease its rate of setting.

In cement, if lime is in excess, cement cracks during setting and if lime is less, cement is of weak strength.

Mortar a mixture of sand, cement and water is used for joining bricks and plastering walls.

Concrete—a mixture of gravel, sand, cement and water is used for flooring and making roads.

Reinforced Concrete Cement (RCC)— which is concrete with steel bars and wires is used for constructing roofs, bridges and pillars

Glass

Glass—an amorphous solid or super- cooled liquid—contains maintz silica (SiO_2).

Different substances are added to obtain glass of different colour

Colour	Substance Added
Red	Copper oxide (CuO)
Green	Chromium oxide (Cr_2O_3)
Blue	Cobalt oxide (CoO)
Brown	Iron oxide (Fe_2O_3)

Heavy water

Heavy water is water that contains **heavy hydrogen or deuterium**. Deuterium differs from the hydrogen usually found in water, protium, in that each atom of deuterium contains a proton and a neutron. Heavy water may be deuterium oxide, **D_2O** or it may be deuterium protium oxide, DHO.

Note: **Heavy water occurs naturally, although** it is much less common than regular water**. Approximately** one water **molecule per twenty million water molecules is heavy water.**

Hard Water

The water in which soluble bicarbonates oil calcium and magnesium are present, is called temporary hard water and in which soluble sulphates and chlorides of magnesium and calcium are present is called permanent hard water.

The temporary hardness of water is removed by boiling or by adding calcium hydroxide, $Ca(OH)_2$— the **Clark's process** The permanent hardness of water is removed by adding sodium carbonate (Na_2CO_3), or calgon (sodium hexametaphosphate, $Na_2[Na_4(PO_3)$

Hardening of Oil (Hydrogenation)

Oil, an unsaturated fat when heated with nickel catalyst and hydrogen gets converted into a solid mass, called ghee, a saturated fat. This process is called hardening of oil and is carried out through hydrogenation in the presence of nickel as a catalyst.

Some Important Ores of Metals

Ores - Those minerals from which the metals are extracted commercially and economically and with minimum effort are called Ores of Metals.

Name of Elements	Ores	Chemical Formulae
1. Aluminum (Al)	(a) Bauxite (b) Corundum (c) Kryolite	$Al_2O_3 2H_2O$ Al_2O_3 Na_3AlF_6
2. Iron (Fe)	(a) Hematite (b) Magnetite (c) IronPyrite (d) Siderite	Fe_2O_3 Fe_3O_4 FeS_2 $FeCO_3$
3. Copper (Cu)	(a) Copper Pyrite (b) Copper Glance (c) Malachite	$CuFeS_2$ Cu_2S $2CuCO_3Cu(OH)_2$
4. Zinc (Zn)	(a) Zinc Blende (b) Calamine	ZnS $ZnCo_3$
5. Sodium (Na)	(a) Rock Salt (b) Sodium Carbonate	$NaCl$ Na_2CO_3
6. Potassium (K)	(a) Karnalite (b) Salt Petre	$KClMgCl_6H_2O$ KNO_3
7. Lead (Pb)	(a) Galena (b) Anglesite	PbS $PbCl_2$
8. Tin (Sn)	(a) Tin Pyrites (b) Classiterite	Cu_2FeSnS_4 SnO_2

9. Silver (Ag)	(a) Silver Glance	Ag_2S
10. Gold (Au)	(a) Calve rite (b) Sybarite	$AuTe_2$ $AgAuTe_2$
11. Mercury (Hg)	(a) Cinnabar (b) Calomel	HgS Hg_2Cl_2
12. Magnesium (Mg)	(a) Dolomite (b) Karnalite	
13. Calcium (Ca)	(a) Lime Stone (b) Dolomite	$CaCO_3$ $MgCO_3CaCO_3$
14. Phosphorous (P)	(a) Phosphorite (b) Floreopetite	$Ca_3(PO_4)CaFe_2$ $3Ca_3(PO_4)CaFe_2$

BIOLOGY

Vitamins:

Organic compound required in small amounts in the diet to maintain normal metabolic functions are known as 'Vitamins'.

Many vitamins act as (or) are converted into coenzymes; they neither provide energy nor are incorporated into tissues.

These also regulate the Bio-chemical processes in the body.

Vitamins are classified into two groups

1. **Fat soluble vitamins** (A, D, E, K). These are rich in liver cells.
2. **Water soluble vitamins** (C, B-complex). These are present in much smaller amounts in cells.

Fat soluble vitamins:

Vitamin A:

Vitamin A is also known as '**Retinol**'.

Deficiency diseases: Night blindness, redness in eyes (Exophthalmia), degeneration of lachrymal glands.

Vitamin D:

Vitamin D is also known as 'Calciferol'.

Deficiency diseases: Rickets in children, Osteomalacia in adults.

Vitamin E:

Vitamin E is also known as 'Tocopherol'.
Deficiency diseases: Sterility nutritional nuclear dystrophy, neurosis of heart muscles.

Vitamin K:

Vitamin K is also known as **'Anti hemorrhagic'**.
Deficiency diseases: Blood coagulation is prevented, continuous bleeding occurs.

Water soluble vitamins:

Vitamin 'B Complex': Vitamin B Complex is a mixture of B1, B2, B3, B5, B6, B7, B9, and B12.

Vitamin B1:

Vitamin B1 is also known as **Thiamin**.
Deficiency diseases: Beri Beri disease which affects the legs.

Vitamin B2:

Vitamin B2 is also known as Riboflavin.
Deficiency diseases: Dark red tongue, dermatitis, cheilosis occurs at the corners of mouth & lips.

Vitamin B3:

Vitamin B3 is also known as **Pentothenic acid**.
Deficiency diseases: Burning sensations of feet.

Vitamin B5:

Vitamin B5 is also known as Nicotinic acid/Niacin.
Deficiency diseases: Pellagra, dermatitis, diarrhea.

Vitamin B6:

Vitamin B6 is also known as **Pyridoxine**.
Deficiency diseases: Dermatitis and convulsions.

Vitamin B7:

Vitamin B7 is also known as **Biotin** (also considered as vitamin H).
Deficiency diseases: Dermatitis, blood cholesterol increases, loss of hair and paralysis.

Vitamin B9:

Vitamin B9 is also known as Folic acid.
Deficiency diseases: Anemia, inflammation of tongue, gastro intestinal disorders.

Vitamin B12:

Vitamin B12 is also known as **'Cynocobal amine'.**
Deficiency diseases: Pernicious anemia, hyperglycemia.

Vitamin C:

Vitamin C is also known as **'Ascorbic acid'.**
Deficiency diseases: Scurvy, delay in wound healing.

Human Diseases Caused by Fungi :-

Ringworm caused by Microsporum, Trichophyton by direct contact from unbathed cats and dogs or objects handled by infected individuals.
Athlete's foot caused by Trichophyton by Bad foot hygiene where skin remains warm and moist for long period, fungi finds optimal condition, invade dead outer layer of skin.

Human Diseases Caused by Viruses -

Smallpox caused by Variola Virus by direct contact (droplets), indirected by infected articles.
Chicken pox caused by Varicella virus by direct contact (droplets) indirected by infected objects.
Common cold caused by Rhinovirus by contact.
Influenza/Flu caused by Orthomixo-virus by contact (droplets) virus transmitted through discharge from respiratory tracts of persons infected with disease
Mumps caused by Mumps virus by direct contact, virus in Saliva and secretion of nose invades salivary glands.

Viral encephalitis caused by Encephalitis virus (arbovirus) by some domestic animals' reservoir of virus, transmitted by mosquito bite to man.

Poliomyelitis caused by Poliovirus by contact, houseflies, fleas, food and water.

Rabies (Hydrophobia) caused by Rabies virus (Rhabdovirus) by Bite a mad (rabid) dog

Dengue fever or breakbone fever caused by Dengue virus (arbovirus) by Mosquito (Aedes) bite.

Acquired Immunodeficiency Syndrome (**AIDS**) caused by Human T-cell

Lenkemia virus (**HTLV-IlI**) also called LAV (Retrovirus) by blood and sperm among homosexuals, heterosexuals, intravenous drug users, haemophiliacs, promiscuous individuals and prostitutes.

Human Diseases Caused by Bacteria

Septic sore throat caused by Streptococcus Sp by Bacteria infect throat and nasal membranes by droplets and direct contact.

Diphtheria caused by Irregular rod (Corynebacterium diphtheria) by Bacteria infect respiratory tract by carrier, through contact, droplets and food items.

Pneumonia caused by Diplococcus pneumonia by Bacteria transmitted to respiratory tract, including the lungs by droplet infection.

Tuberculosis caused by Irregular rod (Mycobacterium tuberculosis) by Bacteria transmitted to lungs, bones and other organs by direct contact droplet infection, food and milk.

Plague or **Bubonic** caused by Short rod (Yersinia pestis) by Rat flea spreads disease from rat to man.

Tetanus or **Lock-Jaw** caused by Clostridium tetani by Bacteria in soil, enters through wound.

Typhoid or enteric fever caused by Salmonella typhi by Flies, food, faces water and carriers.

Cholera caused by Vibrio cholerae by Flies food, stools, water and carriers.

Bacillary dysentery caused by short rod (Shigella dysenteriae)by Flies, food, faeces, water and carriers.

Whooping cough caused by small short rod (Hemophilus pertussis) by Droplets protected during coughing and sneezing.

Syphilis caused by Spiral-shaped organism (Treponema pallidam) by direct contact, chiefly sexual intercourse.

Leprosy caused by Mycobacterium Leprae by long and close contact with infected persons

Botulism caused by Clostridium botulinum by organism produces poison in food.

Human Diseases Caused by Protozoans

Amoebic dysentery (Amoebiasis) caused by Entamoeba histolytica by Transmission from man to man through ingestion of cysts in drinking water vegetables and food contaminated with faeces.

Diarrhea 'Giardiasis' caused by Giardia intestinalis by Transmission from man to man through ingestion of cysts in drinking water vegetables and food contaminated with faces.

Malaria caused by Plasmodium vivax by Transmitted to man by bite of an infected female auophelise mosquito.

Sleeping sickness (Trypanosomiasis) caused by Trypanosoma brucei by Transmitted by bite of tse-tse fly

Some Important Information & Facts Related to Biology

1. **Melvin Kelvin** was awarded Nobel Prize for his work on Photosynthesis
2. The **largest flower** in the world is Refflessia and the **smallest one** is **wolfessia**.
3. **Penicillin** is obtained from **penicillium Notatum**.
4. Reserpine derived from the plant 'serpentine' is used to alleviate high blood pressure.
5. Plants, living in acidic soils, are called **oxalophytes**.
6. **Photosynthesis** is most **active** in **blue** and red light in which light energy is converted into chemical energy.
7. **The smallest bone**, lies **stapes** is found in the human ear.
8. **Enzymes** are basically **proteins**.
9. **Mitochondria** is called the '**power house of the cell'**

10. **Pancreas** is both an endocrine and **exocrine gland**.
11. Persons of blood group **'0'** are called '**Universal Donor'** while that of **'AB'** are called **'Universal Acceptors'.**
12. **Seedless** fruits are formed by **parthenogenesis.**
13. Simple plants that contain **no chlorophyll** are called **fungi**.
14. **Spirogyra** is commonly known as **'pond silk'**
15. The **longest muscle i**n the human body is found **in thigh**.
16. In a leaf, the opening between two guard cells is **stomata**.
17. **Gibberellins** are responsible for cell elongation.
18. The chemical **name of chlorophyll** is magnesium Dihydro prophysin.
19. **Bile** is produced in liver and stored in **gel bladder.**
20. All arteries, except pulmonary artery carry oxygenated blood.
21. The main function of **W.B. C.** is to produce **antibodies**.
22. **Retina** in the eye, acts as a film in the **camera**.
23. Human tears contain a mild antibacterial agent, named **Lysozyme**.
24. The biggest bone in the human body is **femur**.
25. Vitamin **B12** is almost never found in plants.
26. **Agrostology** is the study of **grasses**.
27. **Phycology** is the study of a algae while the study of fossils is called paleontology
28. **Hydroponics** is cultivating plants without using soil.
29. Palco botany is the study of fossils of **botanical specimens**.
30. **Pepsin** & **Lactose** enzymes add proteins in the digestive system.
31. The water soluble vitamins are **vitamin B and C**
32. A chemical change in **DNA molecule** is called **mutation**.
33. **Glycogen** acts as a short -term food reserve in animals.
34. **Estrogen** is a female sex **hormone**.
35. The enzyme amylase aids in the digestion of starch.
36. **ATP** synthesis takes place in **mitochondria**.
37. **70%** of the body weight of a man is **water**.
38. The tough transparent membrane that protects the eye ball is called cornea.
39. Energy is produced in human body by Carbohydrates.
40. Sugar is the product of the dark reactions of photosynthesis.

List Of Scientific Laws and Theories

Archimede's principle - It states that a body when wholly or partially immersed in a liquid experience an upward thrust which is equal to the weight of the liquid displaced by it. Thus, the body appears to lose a part of its weight.

Aufbau principle - It states that in an unexcited atom, electrons reside in the lowest energy orbitals available to them.

Avogadro's Law - It states that equal volumes of all gases under similar conditions of temperature and pressure contain an equal number of molecules.

Brownian motion - It is a zigzag, irregular motion exhibited by small solid particles when suspended in a liquid or gas due to irregular bombardment by the liquid or gas molecules.

Bernoulli's principle - It states that as the speed of a moving fluid, liquid or gas, increases, the pressure within the fluid decreases. The aerodynamic lift on the wing of an aeroplane is also explained in part by this principle.

Boyles's Law - It states that temperature remaining constant, the volume of a given mass of a gas varies inversely with the pressure of the gas. Thus, $PV = K$ (constant), where, P = Pressure and V = Volume.

Charles's Law - It states that pressure remains constant, the volume of a given mass of gas increases or decreases by 1/273 part of its volume at 0-degree Celsius for each degree Celsius rise or fall of its temperature.

Coulomb's Law - It states that the force of attraction or repulsion between two charges is proportional to the amount of charge on both charges and inversely proportional to the square of the distance between them.

Heisenberg principle (uncertainty principle) - It is impossible to determine with accuracy both the position and the momentum of a particle such as an electron simultaneously.

Gay-Lussac's Law of combining volumes - Gases react together in volumes which bear simple whole number ratios to one another and also to the volumes of the products, if gaseous — all the volumes being measured under similar conditions of temperature and pressure.

Graham's Law of Diffusion - It states that the rates of diffusion of gases are inversely proportional to the square roots of their densities under similar conditions of temperature and pressure.

Kepler's Law - Each planet revolves around the Sun in an elliptical orbit with the Sun at one focus. The straight line joining the Sun and the planet sweeps out equal areas in equal intervals. The squares of the orbital periods of planets are proportional to the cubes of their mean distance from the Sun.

Law of Floatation - For a body to float, the following conditions must be fulfilled:

The weight of the body should be equal to the weight of the water displaced.

The centre of gravity of the body and that of the liquid displaced should be in the same straight line.

Law of conservation of energy - It states that energy can neither be created nor destroyed but it can be transformed from one form to another. Since energy cannot be created or destroyed, the amount of energy present in the universe is always remain constant.

Newton's First Law of Motion - An object at rest tends to stay at rest, and an object in motion tends to stay in motion, with the same direction and speed in a straight line unless acted upon by some external force.

Newton's Second Law of Motion - The rate of change of momentum of a body is directly proportional to the force applied and takes place in the direction in which the force acts.

Newton's Third Law of Motion - To every action, there is an equal and opposite reaction.

Newton's Law of Gravitation - All particles of matter mutually attract each other by a force directly proportional to the product of their masses and inversely proportional to the square of the distance between them.

Ohm's Law - It states that the current passing through a conductor between two points is directly proportional to the potential difference across the two points provided the physical state and temperature etc. of the conductor does not change.

Pauli exclusion principle - It explains that no two electrons in the same atom or molecule can have the same set of quantum numbers.

Raman effect - It is the change in wavelength that occurs when light is scattered by the atoms or molecules in a transparent medium.

Tyndall effect - The scattering of light by very small particles suspended in a gas or liquid.

Diseases and its Affected Area

Parts of the Body Affected by Diseases

Disease	Affected Body Part

Arthritis	*Joints*
Asthma	Bronchial Muscles
Cataract	Eyes
Diabetes	Pancreas
Diphtheria	Throat
Eczema	Skin
Glaucoma	Eyes
Goitre	Thyroid Gland
Jaundice	Liver
Leukemia	Blood
Malaria	Spleen

Meningitis	Brain and Spinal Cord
Otitis	Ears
Paralysis	Nerves
Pneumonia	Lungs
Polio	Legs
Pyorrhoea	Teeth and Gums
Rheumatism	Joints
Sinusitis	Inflammation of sinus linings
Tonsillitis	Tonsils
Trachoma	Eyes
Tuberculosis	Lungs
Typhoid	Intestines

Diseases and Causative Agents

Causative Agent	Disease
Bacteria	Diphtheria, Gonorrhoea, Meningitis, Cholera, Leprosy, Typhoid, Tetanus, Tuberculosis, Plague, Whooping Cough, Pneumonia
Virus	Chicken Pox, Small Pox, Measle, Mumps, AIDS, Yellow fever, Influenza, Dengue fever, Rabies, Polio-meritis phelebotomus
Protozoans	Malaria, Sleeping sickness, Kala-azar, Leishmaniasis, Amoebic dysentery
Fungus	Athlete's foot, Ringworms, Madura foot, Dhobi's itch
Helminths	Filaria, Tapeworm and Hookworm transmission

Important Information about Human Body

Biggest Organ: *Liver*
Heart Beat: *72 times in a minute*
Master Gland: *Pituitary*
Number of Bone: *206*
Number of Muscles: 640
Number of chromosomes: *46 or 23 pairs*
Normal Blood Pressure: *80 to 120*
Teeth: *32*
The volume of Blood: *About 7 litres in normal body or about 7% of the total body weight.*

General Awareness

India and its neighboring countries

India is the largest country in the Indian subcontinent and second largest country in southeast Asia. India is also the seventh largest country in the world as per the area and second largest as per the population. India is surrounded by 9 other countries of the southern Asian region which are as follows: Afghanistan, Pakistan, China, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives and Myanmar.

India:

Physiography of India

- India lies on the Indian Plate, which is the northern part of the Indo-Australian Plate. The continental crust of the Indo-Australian Plate forms the Indian subcontinent.

- India lies in the northern hemisphere of the globe between 8°4' N and 37°6' N latitudes and 68°7' E and 97°25' E longitudes.

- The southern extent goes up to 6°45' N latitude to cover the last island of the Nicobar group of islands. The southern extreme is called Pygmalion Point or India Point.

- The Tropic of Cancer passes through the middle part of India and crosses the eight states of Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura and Mizoram.

- The total land frontier of 15,200 km passes through marshy lands, desert, plains, mountains, snow-covered areas and thick forests.

- The maritime boundary of 6100 km along the main landmass which increases to 7516 km of the coastlines of Andaman-Nicobar and Lakshadweep Islands are added to it.

- India commands a total geographical area of 32,87,263 sq.km which is roughly 0.57% of the area of the earth and 2.4% of the total area of the land hemisphere.

- India is the seventh-largest country in the world after Russia, Canada, USA, China, Brazil and Australia (all are mentioned in the descending order).

- India's area is almost equal to the area of Europe (excluding Russia), one-third of Canada, one-fifth of Russia, eight times of Japan and twelve times of the United Kingdom.

- India has roughly a quadrangular shape. It measures about 3,214 km from north to south and about 2933 km from east to west, the difference between the two is just 281km.

Indian States Area-wise:

State	Area (Km²)	Capital	Main Language

State	Area (sq. km)	Capital	Language
Rajasthan	342,239	Jaipur	Rajasthani, Hindi
Madhya Pradesh	308,245	Bhopal	Hindi
Maharashtra	307,713	Mumbai	Marathi
Uttar Pradesh	240,928	Lucknow	Hindi
Gujarat	196,024	Gandhinagar	Gujarati
Karnataka	191,791	Bengaluru	Kannada
Andhra Pradesh	162,968	Hyderabad	Telugu
Odisha	155,707	Bhuvaneswar	Oriyya
Chhattisgarh	135,191	Raipur	Hindi
Tamil Nadu	130,058	Chennai	Tamil
Telangana	112,077	Hyderabad	Telugu
Bihar	94,163	Patna	Hindi
West Bengal	88,752	Kolkata	Bengali
Arunachal Pradesh	83,743	Itanagar	Tribal
Jharkhand	79,714	Ranchi	Hindi
Assam	78,438	Dispur	Assamese
Himachal Pradesh	55,673	Shimla	Hindi
Uttarakhand	53,483	Dehradun	Hindi
Punjab	50,362	Chandigarh	Punjabi
Haryana	44,212	Chandigarh	Hindi
Kerala	38,863	Thiruvananthapuram	Malayalam
Meghalaya	22,429	Shillong	Khasi, Garo, English
Manipur	22,327	Imphal	Manipuri
Mizoram	21,081	Aizawl	Mizo, English
Nagaland	16,579	Kohima	Angami Ao
Tripura	10,486	Agartala	Bengali, Tripuri
Sikkim	7,096	Gangtok	Lepcha, Bhutia
Goa	3,702	Panaji	Marathi, Konkani
Union Territories	**Area (sq. km)**	**Capital**	**Language**
Andaman and Nicobar Is.	8,249	Port Blair	Andamanese, Nicobarese
Delhi	1,490	New Delhi	Hindi
Puducherry	492	Puducherry	Tamil, French
Dadra and Nagar Haveli and Daman and Diu	603	Daman	Gujarati, Marathi
Chandigarh	114	Chandigarh is itself the capital of two states i.e. **Punjab** and **Haryana**.	Hindi, Punjabi, and Haryanvi
Lakshadweep	32	Kavaratti	Malayalam
Jammu Kashmir	-	Srinagar (Summer capital) Jammu (winter capital)	Kashmiri, Urdu
Ladakh	-	Leh, Kargil	Urdu, Hindi, English

As seen earlier, India has 15,106.7 Km of land border and a coastline of 7,516.6 Km including island territories. The data shared in the table is as per the Ministry of Home Affairs, Govt of India.

Name of the Country	Border Length in Km	Capital	Bordering States
Bangladesh	4,096.7	Dhaka	West Bengal, Meghalaya, Mizoram, Tripura and Assam
China	3,488	Beijing	Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh
Pakistan	3,323	Islamabad	Jammu and Kashmir, Ladakh, Punjab, Rajasthan and Gujarat
Nepal	1,751	Kathmandu	West Bengal, Sikkim, Arunachal Pradesh & Assam
Myanmar	1,643	Naypyidaw	Arunachal Pradesh, Nagaland, Mizoram and Manipur
Bhutan	699	Thimpu	West Bengal, Sikkim, Arunachal Pradesh & Assam
Afghanistan	106	Kabul	Ladakh (PoK)
Sri Lanka	Sea Border	Colombo (Commercial), Sri Jayawardenepura Kotte (Legislative)	-
Maldives	Sea Border	Male	-

List of Countries, Capital & its Currency

North America

Sr. No.	Country	Capital	Currency
1	Antigua and Barbuda	St. John's	East Caribbean dollar
2	Bahamas	Nassau	Bahamian dollar
3	Barbados	Bridgetown	Barbadian dollar
4	Belize	Belmopan	Belize dollar
5	Canada	Ottawa	Canadian dollar
6	Costa Rica	San Jose	Costa Rican colon
7	Cuba	Havana	Cuban peso
8	Dominica	Roseau	East Caribbean dollar
9	Dominican Republic	Santo Domingo	Dominican peso
10	El Salvador	San Salvador	United States dollar
11	Grenada	St. George's	East Caribbean dollar
12	Guatemala	Guatemala city	Guatemalan Quetzal
13	Haiti	Port-au-Prince	Haitian gourde
14	Honduras	Tegucigalpa	Honduran Lempira
15	Jamaica	Kingston	Jamaican dollar
16	Mexico	Mexico city	Mexican peso
17	Nicaragua	Managua	Nicaraguan Cordoba
18	Panama	Panama City	Panamanian Balboa
19	Saint Kitts and Nevis	Basseterre	East Caribbean dollar
20	Saint Lucia	Castries	East Caribbean dollar
21	Saint Vincent and the Grenadines	Kingstown	East Caribbean dollar
22	Trinidad and Tobago	Port of Spain	Trinidad and Tobago dollar
23	United States	Washington, D.C.	United States dollar

South America

	Country	Capital	Currency
1	Argentina	Buenos Aires	Argentine peso
2	Bolivia	Sucre	Bolivian Boliviano
3	Brazil	Brasilia	Brazilian real
4	Chile	Santiago	Chilean peso
5	Colombia	Bogota	Colombian peso
6	Ecuador	Quito	United states dollar
7	Guyana	Georgetown	Guyanese dollar
8	Paraguay	Asuncion	Paraguayan guarani
9	Peru	Lima	Peruvian Nuevo sol

10	Suriname	Paramaribo	Surinamese dollar
11	Uruguay	Montevideo	Uruguayan peso
12	Venezuela	Caracas	Venezuelan bolivar

Europe

	Country	Capital	Currency
1	Aland Islands	Mariehamn	Euro
2	Albania	Tirana	Albanian lek
3	Andorra	Andorra La Vella	Euro
4	Austria	Vienna	Euro
5	Belarus	Minsk	Belarusian ruble
6	Belgium	Brussels	Euro
7	Bosnia and Herzegovina	Sarajevo	Bosnia and Herzegovina convertible mark
8	Bulgaria	Sofia	Bulgarian lev
9	Croatia	Zagreb	Croatian kuna
10	Czech Republic	Prague	Czech koruna
11	Denmark	Copenhagen	Danish Krone
12	Estonia	Tallinn	Euro
13	Faroe Islands	Torshavn	Faroese krona
14	Finland	Helsinki	Euro
15	France	Paris	Euro
16	Germany	Berlin	Euro
17	Gibraltar	Gibraltar	Pound sterling
18	Greece	Athens	Euro
19	Guernsey	Saint Peter Port	Guernsey pound
20	Hungary	Budapest	Hungarian forint
21	Iceland	Reykjavik	Icelandic krona
22	Ireland	Dublin	Euro
23	Isle of Man	Douglas	Manx pound
24	Italy	Rome	Euro
25	Jersey	Saint Helier	Jersey pound
26	Kosovo	Pristina	Euro
27	Latvia	Riga	Euro
28	Liechtenstein	Vaduz	Swiss franc
29	Lithuania	Vilnius	Euro
30	Luxembourg	Luxembourg	Euro
31	Macedonia	Skopje	Second Macedonian dinar
32	Malta	Valletta	Euro
33	Moldova	Chisinau	Moldovan Leu
34	Monaco	Monaco	Euro
35	Montenegro	Podgorica	Euro
36	Netherlands	Amsterdam	Euro

37	Norway	Oslo	Norwegian krone
38	Poland	Warsaw	Polish zloty
39	Portugal	Lisbon	Euro
40	Romania	Bucharest	Fourth Romanian Leu
41	Russia	Moscow	Russian Ruble
42	San Marino	San Marino	Euro
43	Principality of Sealand	HM Fort Roughs	Sealand dollar
44	Slovakia	Bratislava	Euro
45	Sweden	Stockholm	Swedish krona
46	Slovenia	Ljubljana	Euro
47	Spain	Madrid	Euro
48	Transnistria	Tiraspol	Transnistrian ruble
49	Svalbard	Longyearbyen	Norwegian krone
50	Switzerland	Bern	Swiss franc
51	Ukraine	Kiev	Ukranian hryvnia
52	Vatican City/Holy See	Vatican City	Euro
53	United Kingdom	London	Pound sterling
54	Serbia	Belgrade	Serbian dinar

Asia

	Country	Capital	Currency
1	Afghanistan	Kabul	Afghan afghani
2	Armenia	Yerevan	Armenian dram
3	Azerbaijan	Baku	Azerbaijani manat
4	Bahrain	Manama	Bahraini dinar
5	Bangladesh	Dhaka	Taka
6	Bhutan	Thimphu	Bhutanese ngultrum
7	Brunei	Bandar Seri Begawan	Brunei dollar
8	Cambodia	Phnom Penh	Combodian reil
9	China	Beijing	Renminbi (Yuan)
10	Cyprus	Nicosia	Euro
11	Georgia	Tbilisi/T'bilisi	Lari
12	India	New Delhi	Indian rupee
13	Indonesia	Jakarta	Rupiah
14	Iran	Tehran	Iranian rial
15	Israel	Jerusalem	Israeli new shekel
16	Japan	Tokyo	Yen
17	Jordon	Amman	Jordonian dinar
18	Kazakhstan	Nur Sultan	Kazakhstani tenge
19	Korea, North	Pyongyang	North Korean won
20	Korea, South	Seoul	South Korean won
21	Kuwait	Kuwait city	Kuwaiti dinar
22	Kyrgyzstan	Bishkek	Kyrgyzstani som
23	Laos	Vientiane	Lao kip

24	Lebanon	Beirut	Lebanese pound
25	Malaysia	Kuala Lumpur	Ringgit
26	Maldives	Male'	Maldivian rufiyaa
27	Mongolia	Ulaanbaatar	Mongolian togrog
28	Myanmar	Nay Pyi Taw	Kyat
29	Nepal	Kathmandu	Nepalese rupee
30	Oman	Muscat	Omani rial
31	Pakistan	Islamabad	Pakistani rupee
32	Philippines	Manila	Philippine peso
33	Qatar	Doha	Qatari riyal
34	Russia	Moscow	Russian ruble
35	Saudi Arabia	Riyadh	Saudi riyal
36	Singapore	Singapore	Singapore dollar
37	Sri Lanka	Sri Jayawardenepura Kotte, Colombo	Sri Lankan rupee
38	Syria	Damascus	Syrian pound
39	Tajikistan	Dushanbe	Somoni
40	Thailand	Bangkok	Baht
41	Timor-Leste/East Timor	Dili	US dollar
42	Turkey	Ankara	Turkish lira
43	Turkmenistan	Ashgabat	Turkmen new manat
44	United Arab Emirates	Abu Dhabi	UAE dirham
45	Uzbekistan	Tashkent	Uzbekistan som
46	Vietnam	Hanoi	Dong
47	Yemen	Sana'a	Yemeni rial

Africa

	Country	Capital	Currency
1	Algeria	Algiers	Algerian dollars
2	Angola	Luanda	Kwanza
3	Benin	Porto-Novo	CFA franc
4	Botswana	Gaborone	Pula
5	Burkina Faso	Ouagadougou	CFA franc
6	Burundi	Bujumbura	Burundi franc
7	Cameroon	Yaounde	CFA franc
8	Cape Verde	Praia	Cape Verdean escudo
9	Central African Republic	Bangui	CFA franc
10	Chad	N'Djamena	CFA franc
11	Comoros	Moroni	Comorian franc
12	Democratic Republic of the Congo	Kinshasa	Congolese franc
13	Republic of the Congo	Brazzaville	CFA franc
14	Djibouti	Djibouti City	Djiboutian franc
15	Egypt	Cairo	Egyptian pound
16	Equatorial Guinea	Malabo	CFA franc
17	Eritrea	Asmara	Nakfa
18	Ethiopia	Addis Ababa	Ethiopian birr

19	Gabon	Libraville	CFA franc
20	Gambia	Banjul	Dalasi
21	Ghana	Accra	Ghanaian cedi
22	Guinea	Conakry	Guinean franc
23	Guinea Bissau	Bissau	CFA franc
24	Ivory Coast	Yamoussou	CFA franc
25	Kenya	Nairobi	Kenyan shilling
26	Lesotho	Maseru	Loti
27	Liberia	Monrovia	Liberian dollar
28	Libya	Tripoli	Libyan dinar
29	Madagascar	Antananarivo	Malagasy ariary
30	Malawi	Lilongwe	Malawian kwacha
31	Mali	Bamako	CFA franc
32	Mauritania	Nouakchott	Ouguiya
33	Mauritius	Port Louis	Mauritian rupee
34	Morocco	Rabat	Moroccan dirham
35	Mozambique	Maputo	Mozambican metical
36	Namibia	Windhoek	Namibian dollar
37	Niger	Niamey	CFA franc
38	Nigeria	Abuja	Naira
39	Rwanda	Kigali	Rwandan franc
40	Sao Tome and Principe	Sao Tome	Dobra
41	Senegal	Dakar	CFA franc
42	Seychelles	Victoria	Seychellois rupee
43	Sierra Leone	Freetown	Sierra Leonean Leone
44	Somalia	Mogadishu	Shilling
45	South Africa	Bloemfontein	South African Rand
46	South Sudan	Juba	South Sudanese pound
47	Sudan	Khartoum	Sudanese pound
48	Swaziland	Lobamba	Lilangeni
49	Tanzania	Dodoma	Tanzanian shilling
50	Togo	Lome	CFA franc
51	Tunisia	Tunis	Tunisian dinar
52	Uganda	Kampala	Ugandan shilling
53	Zambia	Lusaka	Zambian kwacha
54	'Zimbabwe	Harare	Zimbabwean dollar

Australia/Oceania

	Country	Capital	Currency
1	Australia	Canberra	Australian dollar
2	Federated States of Micronesia	Palikir	US dollar
3	Fiji	Suva	Fiji dollar
4	Kiribati	Tarawa	Australian dollar
5	Marshall Islands	Majuro	US dollar

6	Nauru	Yaren	Australian dollar
7	New Zealand	Wellington	New Zealand dollar
8	Palau	Ngerulmud	US dollar
9	Papua New Guinea	Port Moresby	Kina
10	Samoa	Apia	Tala
11	Solomon Islands	Honiara	Solomon Islands dollar
12	Tonga	Nuku'alofa	Pa'anga
13	Tuvalu	Funafuti	Australian dollar
14	Vanuatu	Port Vila	Vatu

Part V of the Indian Constitution: Parliament of India

Organization of the Parliament

The Parliament consists of the President, the Lok Sabha and the Rajya Sabha.

Lok Sabha is the Lower House (First Chamber or Popular House) and Rajya Sabha is the Upper House (Second Chamber or House of Elders).

Composition of Rajya Sabha

The maximum strength of the Rajya Sabha is fixed at 250, out of which, 238 are to be the representatives of the states and union territories (elected indirectly) and 12 are nominated by the president.

At present, the Rajya Sabha has **245** members. Of these, 229 members represent the states, 4 members represent the union territories and 12 members are nominated by the president.

The Fourth Schedule of the Constitution deals with the allocation of seats in the Rajya Sabha to the states and union territories.

The representatives of states in the Rajya Sabha are elected by the elected members of state legislative assemblies. The seats are allotted to the states in the Rajya Sabha on the basis of population.

NOTE – Population as ascertained on the basis of 2001 census as per 87th Amendment Act, 2003.

Composition of Lok Sabha

The maximum strength of the Lok Sabha is fixed at 552. Out of this, 530 members are to be the representatives of the states, 20 members are to be the representatives of the union territories and 2 members may be nominated by the president from the Anglo-Indian community.

At present, the Lok Sabha has 545 members.

The representatives of states in the Lok Sabha are directly elected by the people from their respective constituencies.

The voting age was reduced from 21 to 18 years by the 61st Constitutional Amendment Act, 1988.

Duration of the two Houses of Parliament

The Rajya Sabha is a permanent body and not subject to dissolution. However, one-third of its members retire every second year. The retiring members are eligible for re-election and re-nomination any number of times.

Unlike the Rajya Sabha, the Lok Sabha is not a continuing chamber. Its normal term is five years from the date of its first meeting after the general elections, after which it automatically dissolves.

Qualification, disqualifications etc. to be an MP

Eligibility

(a) Citizen of India.
(b) Minimum age – 30 years in Rajya Sabha and 25 years in Lok Sabha.
(c) He must possess other qualifications prescribed by Parliament. (Hence, the Representation of People Act, 1951).

Criteria for disqualifying an MP:

(a) If he holds any office of profit under the Union or state government
(b) If he is of unsound mind and stands so declared by a court.
(c) If he is an undischarged insolvent.
(d) if he is not a citizen of India or has voluntarily acquired the citizenship of a foreign state or is under any acknowledgement of allegiance to a foreign state; and
(e) If he is so disqualified under any law made by Parliament (RPA, 1951).

The Constitution also lays down that a person shall be disqualified from being a member of Parliament if he is so disqualified on the ground of defection under the provisions of the Tenth Schedule.

Double Membership - A person cannot be a member of both Houses of Parliament at the same time.

A House can declare the seat of a member vacant if he is absent from all its meetings for a period of sixty days without its permission.

Speaker of the Lok Sabha

The Speaker is elected by the Lok Sabha from amongst its members (as soon as may be, after its first sitting). The date of election of the Speaker is fixed by the President.

The Speaker offers his resignation to the Deputy Speaker and he can be removed by a resolution passed by a majority of members of Lok Sabha, however, only after giving him a 14-day notice.

He presides over a joint sitting of the two Houses of Parliament. Such a sitting is summoned by the President to settle a deadlock between the two Houses on a bill.

He decides whether a bill is a money bill or not and his decision on this question is final.

He can't vote in the first instance, though can vote in the event of a tie. When his removal motion is under consideration, he can take part and speak in the proceedings and can vote as well but not in the case of a tie. He can't preside in that case. However, his motion can be passed by an absolute majority only and can be considered only if it has the support of at least 50 members.

G.V Mavalankar was the first Speaker of Lok Sabha.

The longest serving Speaker of Lok Sabha so far has been Balram Jakhar.

NOTE – There's also a post known as *Speaker Pro Tem, appointed by the President himself.* He is usually the oldest member of the last Lok Sabha and he presides over the first session of the incoming Lok Sabha. President administers him the oath.

Deputy Speaker of the Lok Sabha

Like the Speaker, the Deputy Speaker is also elected by the Lok Sabha itself from amongst its members.

The date of election of the Deputy Speaker is fixed by the Speaker. The removal process is the same as that of the speaker and he offers his resignation to the Speaker of the Lok Sabha.

Madabhushi Ananthasayanam Ayyangar was the first Deputy Speaker of Lok Sabha.

He presides over the joint sitting in case of absence of the Speaker.

Sessions of Parliament

A 'session' of Parliament is the period spanning between the first sitting of a House and its prorogation (or dissolution in the case of the Lok Sabha). The time period between the prorogation of a House and its reassembly in a new session is called 'Recess'. There are usually three sessions. The budget session is the longest and winter is the shortest.

The Budget Session (February to May);

The Monsoon Session (July to September); and

The Winter Session (November to December).

Important parliamentary terms, points, motions, bills, questions and Committees

The maximum gap between two sessions of Parliament cannot be more than six months.

The President summons and prorogues the two houses of parliament.

Quorum is the minimum number of members required to be present in the House before the transaction of any business. It is one-tenth of the total number of members in each House including the presiding officer. It means that there must be at least 55 members present in the Lok Sabha and 25 in the Rajya Sabha.

Every minister and the attorney general of India have the right to speak and take part in the proceedings of either House, any joint sitting of both the Houses and any committee of Parliament of which he is a member, without being entitled to vote.

A lame-duck session refers to the last session of the existing Lok Sabha after a new Lok Sabha has been elected.

Question Hour is the first hour of every parliamentary sitting.

A **starred question** (distinguished by an asterisk) requires an oral answer and hence supplementary questions can follow.

An **unstarred question**, on the other hand, requires a written answer and hence, supplementary questions cannot follow.

A **short notice question** is one that is asked by giving a notice of fewer than ten days. It is answered orally.

The zero hour starts immediately after the question hour and lasts until the agenda for the day (that is, regular business of the House) is taken up. In other words, the time gap between the question hour and the agenda is known as zero hours. It is an Indian innovation in the field of parliamentary procedures and has been in existence since 1962.

Adjournment Motion It is introduced in the Parliament to draw the attention of the House to a definite matter of urgent public importance and needs the support of 50 members to be admitted. Rajya Sabha isn't permitted to make use of this device and the discussion should last for not less than two hours and thirty minutes.

No-Confidence Motion Article 75 of the Constitution says that the council of ministers shall be collectively responsible to the Lok Sabha. It means that the ministry stays in the office so long as it enjoys the confidence of the majority of the members of the Lok Sabha. In other words, the Lok Sabha can remove the ministry from office by passing a no-confidence motion. The motion needs the support of 50 members to be admitted.

A bill is a proposal for legislation and it becomes an act or law when duly enacted. It could be classified as a private member bill or a public bill. A public bill is the one introduced by any minister and a private bill is the one which is otherwise.

Bills can be ordinary, money or financial and constitutional amendment bills. Money bills are the ones which are concerned with taxation, money matters which are specifically mentioned in article 110. Financial bill is also concerned with such matters though with slight differences and are mention in articles 117(1) and 117(3). Constitution amendment bills, which are concerned with the amendment of the provisions of the Constitution.

The Rajya Sabha cannot reject or amend a money bill. It can only make the recommendations. It must return the bill to the Lok Sabha within 14 days, either with or without recommendations. The decision of the speaker is final in deciding a bill is a money bill or not. Also, every such bill is deemed to be a public bill.

The provision of joint sitting is applicable to ordinary bills or financial bills only and not to money bills or Constitutional amendment bills. In the case of a money bill, the Lok Sabha has overriding powers, while a Constitutional amendment bill must be passed by each House separately.

The term 'budget' has nowhere been used in the Constitution. It is the popular name for the 'annual financial statement' that has been dealt with in Article 112 of the Constitution.

The Railway Budget was separated from the General Budget in 1921 on the recommendations of the Acworth Committee. From the year 2017, the railway budget and the main financial budget were again merged and in 2017 the budget was presented on the 1st February 2017.

Consolidated Fund of India - It is a fund to which all receipts are credited and all payments are debited. In other words, (a) all revenues received by the Government of India; (b) all loans raised by the Government by the issue of treasury bills, loans or ways and means of advances; and (c) all money received by the government in repayment of loans forms the Consolidated Fund of India. Mentioned in article 266**.**

Public Account of India - All other public money (other than those which are credited to the Consolidated Fund of India) received by or on behalf of the Government of India shall be credited to the Public Account of India.

Contingency Fund of India - The Constitution authorised the Parliament to establish a 'Contingency Fund of India', into which amounts determined by law are paid from time to time. Accordingly, the Parliament enacted the contingency fund of India Act in 1950. This fund is placed at the disposal of the president, and he can make advances out of it to meet unforeseen expenditure pending its authorisation by the Parliament.

Public Accounts Committee - It consists of 22 members (15 from the Lok Sabha and 7 from the Rajya Sabha). Term of members – 1 year. A minister cannot be elected as a member of the committee. The chairman of the committee is appointed by the Speaker from amongst its members. Until 1966–67, the chairman of the committee belonged to the ruling party. However, since 1967 a convention has developed whereby the chairman of the committee is selected

invariably from the Opposition. The function of the committee is to examine the annual audit reports of the Comptroller and auditor general of India (CAG), which are laid before the Parliament by the president.

Estimates Committee – The largest committee of the Parliament. The present number of members is 30. All the thirty members are from Lok Sabha only. The term of office is one year. A minister cannot be elected as a member of the committee. The chairman of the committee is appointed by the Speaker from amongst its members and he is invariably from the ruling party.

Committee on Public Undertakings – Present number of members is 22 (15 from the Lok Sabha and 7 from the Rajya Sabha). The term of office of the members is one year. A minister cannot be elected as a member of the committee. The chairman of the committee is appointed by the Speaker from amongst its members who are drawn from the Lok Sabha only.

Important Days and Dates (National and International)

Important Dates and Days of January

January 4: World Braille Day

January 9: NRI Day (Pravasi Bhartiya Diwas)

January 10: World Hindi Day

January 12: National Youth Day

January 15: Army day

January 25: National Voters day, National Tourism Day

January 30: Martyrs' Day

January (last Sunday): World Leprosy Eradication Day

Important Dates and Days of February

February 2: World Wetlands Day

February 4: World Cancer Day

February 6: International Day of Zero Tolerance to Female Genital Mutilation

February 5: Safer Internet Day (second day of the second week of February)

February 10: National De-worming Day

February 13: World Radio Day, National Women's Day (Birth Date of Sarojini Naidu)

February 27: World NGO Day

February 28: National Science Day

Important Dates and Days of March

March 3: World Wildlife Day

March 8: International Women's Day

March 14: International Day of Action for Rivers

March 15: World Consumer Rights Day

March 20: International Day of Happiness

March 21: World Forestry Day; World Down Syndrome Day; World Poetry Day

March 22: World Day for Water

March 23: World Meteorological Day

March 24: World TB Day

March 27: World Theatre Day

Second Wednesday of March: No Smoking Day

Second Thursday of March: World Kidney Day

Important Dates and Days of April

April 7: World Health Day

April 10: World Homeopathy Day

April 11: National Safe Motherhood Day

April 17: World Haemophilia Day

April 21: Civil Services Day

April 22: Earth Day

April 24: National Panchayati Day

April 25: World Malaria Day

April 30: Ayushman Bharat Diwas

Important Dates and Days of May

May 1: Workers' Day (International Labour Day),

May (1st Tuesday): World Asthma Day

May (2nd Sunday): Mother's Day

May 8: World Red Cross Day

May 11: National Technology Day

May 17: World Telecommunication Day; World Hypertension Day

May 21: National Anti-Terrorism Day

May 22: International Day for Biological Diversity

May 31: Anti-tobacco Day

Important Dates and Days of June

June 3: World Bicycle Day

June 5: World Environment Day

June (3rd Sunday): Father's Day

June 7: World Food Safety Day

June 8: World Ocean Day, World Brain Tumour Day

June 12: Anti-Child Labor Day

June 20: World Refugee Day

June 21: International day of yoga

June 23: United Nations Public Service Day, International Olympic Day

June 26: International Day against Drug Abuse and Illicit Trafficking

Important Dates and Days of July

July 1: Doctor's Day

July 11: World Population Day

July 17: World Day for International Justice

July 18: International Nelson Mandela Day

July 28: World Hepatitis Day

July 29: Global tiger Day

Important Dates and Days of August

August (1st Sunday): International Friendship Day

August 6: Hiroshima Day

August 9: Quit India Day, Nagasaki Day, Intl. Day of the World's Indigenous Peoples

August 12: International Youth Day

August 29: National Sports Day

Important Dates and Days of September

September 5: Teachers' Day

September 8: International Literacy Day

September 14: Hindi Diwas

September 15: Engineers' Day; International Day of Democracy

September 16: World Ozone Day

September 21: Alzheimer's Day

September 23: International Day of Sign Languages

September 27: World Tourism Day

September 29: World Heart Day

Important Dates and Days of October

October 1: International Day for the Elderly

October 4: World Animal Welfare Day

October 10: World Mental Health Day

October 11: International Girl Child Day

October 2nd Thursday: World Sight Day

October 13: UN International Day for Natural Disaster Reduction

October 15: World Students Day

October 16: World Food Day

October 24: UN Day

October 31: National Unity Day

Important Dates and Days of November

November 5: World Tsunami day

November 7: National Cancer Awareness Day

November 9: Legal Services Day

November 14: Children's Day; Diabetes Day; Rasagola Day (Recently declared by West Bengal govt)

November 17: National Epilepsy Day

Important Dates and Days of December

December 1: World AIDS Day

December 2: National Pollution Control Day

December 10: Human Rights' Day

December 14: World Energy Conservation Day

December 18: Minorities Rights Day (India)

December 22: National Mathematics Day

December 23: Kisan Divas (Farmer's Day) (India)

December 24: National Consumers Day

December 25: Good Governance Day

International Organizations & Headquarters

1. World Bank

Founded in	1945
Headquarters	Washington D.C. (U.S.A.)
India and World Bank	India was one of the 17 countries, prepared the agenda for the Bretton Woods Conference (June 1944), it is a founding member of WB
Remarks	The World Bank Group works in every major area of development. It provides a wide array of financial products and technical assistance, and help countries share and apply innovative knowledge and solutions to the challenges they face.

2. International Monetary Fund (IMF)

Founded in	1944
Headquarters	Washington D.C. (U.S.A.)
Members	The International Monetary Fund (IMF) is an organization of 189 countries.
India and IMF	India joined the IMF on December 27, 1945, as one of the IMF's original members.
Remarks	The IMF's primary purpose is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries (and their citizens) to transact with each other. The Fund's mandate was updated in 2012 to include all macroeconomic and financial sector issues that bear on global stability solutions to the challenges they face.

3. World Trade Organization (WTO)

Founded in	1 January 1995

Headquarters	Geneva, Switzerland
Members	The WTO has 164 members and 22 observer governments. Liberia became the 163rd member on 14 July 2016, and Afghanistan became the 164th member on 29 July 2016.
India and WTO	India has been a WTO member since 1 January 1995 and a member of GATT since 8 July 1948.
Remarks	The WTO provides a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thus contributing to economic growth and development. their interpretation and application. The current body of trade agreements comprising the WTO consists of 16 different multilateral agreements (to which all WTO members are parties) and two different plurilateral agreements (to which only some WTO members are parties).

4. Bank for International Settlements (BIS)

Founded in	May 17, 1930
Headquarters	Basel, Switzerland.
Members	It is an Organization of 60 Central Banks of different countries RBI is among its members
Remarks	The mission of the BIS is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks.

5. World Economic Forum (WEF)

Founded in	1971
Headquarters	Geneva, Switzerland.
Members	The World Economic Forum provides a platform for the world's 1,000 leading companies to shape a better future. As a membership organization, the Forum engages businesses in projects and initiatives – online and offline – to address industry, regional and systemic issues.
Remarks	The World Economic Forum, committed to improving the state of the world, is the International Organization for Public-Private Cooperation.

	The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas.

6. The Asian Development Bank

Founded in	19 December 1966
Headquarters	Mandaluyong, Metro Manila, Philippines
Members	From 31 members at its establishment in 1966, ADB has grown to encompass 67 members—of which 48 are from within Asia and the Pacific and 19 outside.
India and ADB	India is a founding member of the ADB and is now the fourth largest shareholder.
Remarks	The Asian Development Bank aims for an Asia and Pacific free from poverty. Its mission is to help developing member countries reduce poverty and improve the quality of life of their people. As a multilateral development finance institution, ADB provides: loans technical assistance grants

7. New Development Bank

Founded in	During the sixth BRICS Summit in Fortaleza (2014), the leaders of BRICS nations signed the Agreement establishing the New Development Bank (NDB).
Headquarters	Shanghai, China
Members	Bank's Articles of Agreement specify that all members of the United Nations could be members of the bank, however, the share of the BRICS nations can never be less than 55% of voting power. At present BRICS nations are the members of NDB
India and NDB	As a member of BRICS, India are one of the founding members of NDB, India has 20% shareholding and 20% of voting rights in NDB.
Remarks	The Bank will provide technical and financial assistance for projects to be supported by the NDB and engage in information, cultural and

	personnel exchanges with the purpose of contributing to the achievement of environmental and social sustainability.

8. The Asian Infrastructure Investment Bank (AIIB)

Founded in	16 January 2016 (Open for business) 25 December 2015 (Entry into force Articles of Agreement)
Headquarters	Beijing, China
Members	The bank currently has 56-member states while another 24 are prospective members for a total of 80 approved members.
India and AIIB	Fund Shares of countries- China- 30.34 % India- 8.52 % Russia- 6.66 % Voting shares of countries- China- 26.06 % India- 7.5 % Russia- 5.92 %
Remarks	AIIB offers sovereign and non-sovereign financing for sound and sustainable projects in energy and power, transportation and telecommunications, rural infrastructure and agriculture development, water supply, and sanitation, environmental protection, and urban development and logistics.

9. European Union

Founded in	1 November 1993
Headquarters	Brussels, Belgium
Members	28 European countries
Remarks	Treaty of Maastricht established the European Union in 1992. Recently United Kingdom has initiated a process for withdrawing from EU.

10. Association of South East Asian Nations (ASEAN)

Founded in	1967

Headquarters	Jakarta, Indonesia
Members	Indonesia, Malaysia, the Philippines, Singapore, and Thailand (Founding members), Brunei, Cambodia, Laos, Myanmar, and Vietnam.
Remarks	ASEAN promotes Pan-Asianism and intergovernmental cooperation and facilitates economic, political, military, educational and cultural integration amongst its members and Asian states.
Head	Chairman- Rodrigo Duterte Secretary-General- Le Luong Minh

11. SAARC

Founded in	1985
HQ	Kathmandu(Nepal)
Member	Afghanistan, Bangladesh, Bhutan, **India,** Nepal, the Maldives, Pakistan and Sri Lanka
Remark	The organization promotes the development of economic and regional integration. It launched the South Asian Free Trade Area in 2006.

12. Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)

Founded in	1997
HQ	Dhaka, Bangladesh
India and BIMSTEC	Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan and Nepal
Remark	The BIMSTEC states are among the countries dependent on the Bay of Bengal

13. Shanghai Cooperation Organisation (SCO)

Founded in	15 June 2001
Headquarter	Beijing, China
Member	China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan, **India**, and Pakistan

14. North Atlantic Treaty Organization (NATO)

Founded in	4th April 1949
Headquarters	Brussels, Belgium
Members	NATO is an alliance that consists of 29 independent member countries across North America and Europe.
Remarks	NATO constitutes a system of collective defense whereby its member states agree to mutual defense in response to an attack by any external party. Three NATO members (the United States, France, and the United Kingdom) are permanent

| | members of the United Nations Security Council with the power to veto and are officially nuclear-weapon states. |

15. Nuclear Supplier Group(NSG)

Founded in	1974
India and NSG	India is not a member of NSG
Important facts about NSG	It is a group of nuclear supplier countries that seek to prevent nuclear proliferation by controlling the export of materials, equipment, and technology that can be used to manufacture nuclear weapons. It has also been referred to as the London Group, or the London Suppliers Group.

16. International Court of Justice(ICJ)

Founded in	1945
Headquarter	Hague, Netherland
India and ICJ	India is a member of ICJ
The important fact about ICJ	The Court has a twofold role: to settle, in accordance with international law, legal disputes submitted to it by States (Contentious cases) and to give advisory opinions (Advisory proceedings) on legal questions referred to it by duly authorized United Nations organs and specialized agencies.

17. The Collective Security Treaty Organization (CSTO)

Founded in	15 May 1992 (as Collective Security Treaty) 7 Oct 2002 (as Collective Security Treaty Organization)
Headquarters	Moscow, Russia
Members	6 members and 2 observers

18. International Renewable Energy Agency(IRENA)

Founded in	2009
Headquarter	Abu Dhabi, United Arab Emirates
India and IRENA	India is a member of IRENA
Important facts about IRENA	Supports countries in their transition to a sustainable energy future and serves as the principal platform for international cooperation, a center of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy.

19. Amnesty International

Founded in	1961
Headquarter	London
Important facts about Amnesty International	Focused on human rights. The objective of the organization is "to conduct research and generate action to prevent and end abuses of human rights and to demand justice for those whose rights have been violated
India and Amnesty	HQ of Amnesty International in India is in Bangalore

20. Missile Technology Control Regime (MTCR)

Established in	1987
India and MTCR	India became the 35th member on 27 June 2016.
Important Facts about MTCR	The objective to curb the spread of unmanned delivery systems for nuclear weapons, specifically delivery systems that could carry a payload of 500 kg for a distance of 300 km. It includes non-proliferation of unmanned aerial vehicles(UAVs) for all weapons of mass destruction
Member Countries	35 members

21. International Atomic Energy Agency (IAEA)

Founded in	1957
Headquarters	Vienna, Austria
Head	Yukiya Amano
India and IAEA	India is a member of IAEA
Important facts about IAEA	Was Widely known as the world's "Atoms for Peace" organization within the United Nations family, the IAEA is the international center for cooperation in the nuclear field.

22. International Solar Alliance (ISA)

Founded in	2015
Headquarter	Gurugram
India and ISA	India is a founding member of ISA
Important facts about ISA	Alliance of more than 121 countries, most of them being sunshine countries, which come either completely or partly between

	the Tropic of Cancer and the Tropic of Capricorn. Launched by India at the India Africa Summit, and a meeting of member countries ahead of the 2015 United Nations Climate Change Conference in Paris in November 2015
Member Countries	121 members

23. OPCW (Organisation for the Prohibition of Chemical Weapons)

Established in	1997
Headquarters	The Hague, Netherlands
India and OPCW	**India is a permanent member**
Important facts about OPCW	Preventing chemical weapons used in warfare, thereby strengthening international security.

List of Important Sports Championships

Here is the list of Cups and Trophies of various sports held at the international and national level. Sports-related general knowledge is important in various competitive exams. In various competitive exams, cups and trophies related to various are asked.

Sports Championships (National Level)

Championships	Related Sports
Beighton Cup	Hockey
Ezra Cup	Polo
Deodhar Trophy	Cricket
B. C Roy Trophy	Football
Duleep Trophy	First Class Cricket
Durand Cup	Football
Syed Mushtaq Ali Trophy	Cricket
Guru Nanak Dev Gold Cup	Hockey
Z. R. Irani Cup	Cricket
Maharaja Ranjit Singh Gold Cup	Hockey
Murugappa Gold Cup	Hockey
Nehru Trophy	Boat Race
Nizam Gold Cup	Horse Racing
Rangaswami Cup	Hockey
Ranji Trophy	Cricket
Rovers Cup	Football
Santosh Trophy	Football
Sheesh Mahal Trophy	Cricket

Subroto Mukherjee Cup	Football
Vittal Trophy	Football
Vijay Hazare Trophy	Cricket
Vizzy Trophy	Cricket
Yadavindra Cup	Hockey

Sports Championships (International Level)

Cups And Trophies	Sports
American Cup	Yacht Racing
Asia Cup	Cricket
The Ashes	Cricket (England and Australia)
Colombo Cup	Football (India, Pakistan, Sri Lanka and Myanmar)
Corbillon Cup	Table Tennis (Women)
Davis Cup	Tennis (Men)
Lord Derby Cup	Rugby
Billie Jean King Cup	Tennis (Women)
Holkar Trophy	Bridge
Jules Rimet Trophy	World Football (Soccer)
Merdeka Cup	Football (Asian Cup)
Ryder Cup	Golf (Men)
Solheim Cup	Golf (Women)
Sudirman Cup	Badminton
Sultan Azlan Shah Cup	Field Hockey (Men)
Swaythling Cup	World Table Tennis (Men)
Thomas Cup	Badminton (Men)
Tunku Abdul Rahman Cup	Asian Badminton
U. Thant Cup	Lawn Tennis
Uber Cup	Badminton (Women)
Yonex Cup	Badminton
Walker Cup	Golf
Wightman Cup	Tennis (Women)
William Jones Cup	Basketball
Wimbledon Trophy	Tennis
FIFA World Cup	Football
ICC World Cup	Cricket
Australian Open	Lawn Tennis
Wimbledon	Lawn Tennis
US Open	Lawn Tennis
French Open	Lawn Tennis
Tour de France	Cycle Race

List of Important Awards/Honours and their respective Fields

There is a list of important awards/honours and their respective fields.

Awards	Respective fields
Bharat Ratna	Any field of Human Endeavour
Padma Vibhushan	Exceptional and distinguished service
Padma Bhushan	Distinguished service of a high order
Padma Shri	Distinguished service
Rajiv Gandhi Khel Ratna award	Highest Sports honour in India
Dhyan Chand Award	Sports and games
Dronacharya Award	Outstanding Coaches in Sports and Games
Jnanpith Award	Literature
Saraswati Samman	Poetry
Moorti Devi Award	Literature
Vyas Samman	Hindi literature
Sahitya Akademi Award	Literature (24 Indian languages)
Dadasaheb Phalke Award	Outstanding contribution to the growth and development of Indian cinema
Shanti Swarup Bhatnagar Prize	Science and technology
Nobel prize	Literature, Medicine, Chemistry, Physics, Peace, Economic Sciences
Oscar Award (also known as Academy Award)	Cinematic/Best in Film
Arjuna Award	Sports and games
Right livelihood Award (Alternative Nobel Prize)	Practical and exemplary solutions to the most urgent challenges facing the world today; Given in fields like environmental protection, human rights, sustainable development, health, education, and peace
UNESCO Prize for Human Rights Education	Human rights awareness
World Food prize (Nobel Prize in agriculture)	Agriculture and food
Stirling Prize	Excellence in Architecture

R.D Birla Award	Physics
Pritzker Architecture Prize	Architecture
Grammy Award	Outstanding achievements in the music industry
Abel Prize	Outstanding scientific work in the field of mathematics
Lal Bahadur Shastri National Award	Excellence in public administration, Academics and Management
Green Star Award	Excellence in preventing, preparing for and responding to environmental emergencies
Manthan Award	Outstanding contributions in digital content creation
Sangeet Natak Akademi Award	Award for performing arts in India

List of academies & research institutes in India (state-wise)

S.NO.	NAME	LOCATION/CITY	STATE	IMPORTANT FACTS
1	Damodaram Sanjivayya National Law University	Visakhapatnam	Andhra Pradesh	-
2	Dr. Y. S. R. Horticultural University	Tadepalligudem	Andhra Pradesh	-
3	**Indian Maritime University**	Visakhapatnam	Andhra Pradesh	-
4	Dravidian University	Kuppam	Andhra Pradesh	-
5	Gandhi Institute of Technology and management	Visakhapatnam	Andhra Pradesh	-
6	Acharya N. G. Ranga Agricultural University	Guntur	Andhra Pradesh	-
7	North-Eastern Regional Institute of Science and Technology	Nirjuli	Arunachal Pradesh	-
8	North-East Frontier Technical university	Alang	Arunachal Pradesh	-
9	Himalayan University	Itanagar	Arunachal Pradesh	-
10	Central Institute of Himalayan Cultural Studies	Tenga Valley	Arunachal Pradesh	-
11	Srimanta Sankaradeva University of Health Sciences	Guwahati	Assam	-

12	Kumar Bhaskar Varma Sanskrit and Ancient Studies University	Nalbari	Assam	-
13	**Chanakya National Law University**	Patna	Bihar	-
14	**National Institute of Pharmaceutical and Research**	Hajipur	Bihar	-
15	Women's Institute of technology	Darbhanga	Bihar	-
16	Rajendra Agricultural University	Pusa	Bihar	-
17	Nava Nalanda Mahavira	Nalanda	Bihar	1st and oldest University in the world
18	**National Centre for Antarctic and Ocean Research**	Vasco	Goa	-
19	Charotar University of Science and Technology	Changa	Gujarat	-
20	Bhaskarcharya Institute for Space Applications and Geo-informatics	Gandhinagar	Gujarat	-
21	Central Salt and Marine Chemicals Research Institute	Bhavnagar	Gujarat	-
22	**Institute of Indian Diamond**	Surat	Gujarat	-
23	**Institute for Plasma Research**	Gandhinagar	Gujarat	-
24	Institute of Rural management	Anand	Gujarat	-
25	Institute of Infrastructure Technology Research and Management	Ahmedabad	Gujarat	-
26	**Rail University**	Vadodara	Gujarat	
27	Pandit Deendayal Petroleum University	Gandhinagar	Gujarat	Proposed
28	Mudra Institute of Communications	Ahmedabad	Gujarat	-
29	**Indian National Defence University**	Gurgaon	Haryana	-
30	**National Brain Research Centre**	Manesar	Haryana	-
31	**National Dairy research institute**	Karnal	Haryana	-
32	**World University of Design**	Sonipat	Haryana	India's first design University

33	National University of Food Technology Entrepreneurship and Management	Sonipat	Haryana	-
34	Maharana Pratap Horticultural University	Anjanthali	Haryana	-
35	Institute of Civil Aviation	Hisar	Haryana	-
36	**National Institute of Sports**	Patiala	Haryana	-
37	**Chaudhary Sarwan Kumar Krishi Vishvavidyalaya**	Palampur	Himachal Pradesh	-
38	Himalayan Forest Research Centre	Shimla	Himachal Pradesh	-
39	Central Budd Educational Institute	Leh	J & K	-
40	Indian Institute of Astrophysics	Bangalore	Karnataka	-
41	National Institute of Design R&D campus	Bangalore	Karnataka	-
42	**Indian Institute of Science**	Bangalore	Karnataka	1st deemed University in India
43	National Yunani Institute	Bangalore	Karnataka	-
44	University of Fisheries and Ocean Studies	Kochi	Kerala	-
45	**Indian Institute of Space Science and Technology**	Thiruvananthapuram	Kerala	-
46	Traum Academy for German and French Languages	Ernakulam	Kerala	-
47	Lakshmibai National Institute of Physical Education	Gwalior	Madhya Pradesh	-
48	**Indian Institute of Forest management**	Bhopal	Madhya Pradesh	-
49	**National Justice Academy**	Bhopal	Madhya Pradesh	-
50	Maulana Azad National Institute of Technology	Bhopal	Madhya Pradesh	-
51	Indian Institute of Tourism and Travel Management	Gwalior	Madhya Pradesh	-
52	Indira Gandhi National Tribal University	Amarkantak	Madhya Pradesh	-
53	Sarvepalli Radhakrishnan University	Bhopal	Madhya Pradesh	-
54	National Power Training Institute	Nagpur	Maharashtra	-

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55	National Institute of Bank management	Pune	Maharashtra	-
56	National Natural Medical Institute	Pune	Maharashtra	-
57	National Civil Defence College	Nagpur	Maharashtra	-
58	Bhabha Atomic Research Institute	Trombay, Mumbai	Maharashtra	-
59	Deccan College of Post-Graduate and research institute	Pune	Maharashtra	-
60	Defence Institute of Advanced technology	Pune	Maharashtra	-
61	Indian Institute of Tropical Meteorology	Pune	Maharashtra	-
62	Chinmaya Vishwa Vidyapeeth	Mumbai	Maharashtra	-
63	Tata Institute of Fundamental Research	Mumbai	Maharashtra	-
64	**Homi Bhabha National Institute**	Mumbai	Maharashtra	-
65	Indian Institute of GeoMagnetism	Mumbai	Maharashtra	-
66	**Tata Institute of Social Sciences**	Mumbai	Maharashtra	-
67	North-Eastern Hill University	Shillong	Meghalaya	-
68	Academy of Integrated Christian Studies	Aizawl	Mizoram	-
69	National Rehabilitation Training and Research Institute	Cuttack	Orissa	-
70	Rajiv Gandhi National University of Law	Patiala	Punjab	-
71	**National Agri-Food Biotechnology Institute**	Mohali	Punjab	-
72	Shaheed Bhagat Singh State Technical campus	Firozpur	Punjab	-
73	Maharana Pratap University of Agriculture and Technology	Udaipur	Rajasthan	-
74	Haridev Joshi University of Journalism and Mass Communication	Jaipur	Rajasthan	-
75	National Institute of Ayurveda	Jaipur	Rajasthan	-

76	**Central Arid Zone Research Institute**	Jodhpur	Rajasthan	-
77	**Central Sheep and Wool Research Institute**	Tonk	Rajasthan	-
78	Eastern Institute for Integrated learning in Management	South Sikkim district	Sikkim	-
79	Central Institute of Brackish Water Aquaculture	Chennai	Tamil Nadu	-
80	National Siddha Institute	Chennai	Tamil Nadu	-
81	Rajiv Gandhi National Youth Development Institute	Perambur	Tamil Nadu	-
82	Institute of Forest Genetic Tree Breeding	Coimbatore	Tamil Nadu	-
83	Indian Institute of Crop Processing Technology	Thanjavur	Tamil Nadu	-
84	Gandhigram Rural Institute	Dindigul	Tamil Nadu	-
85	Central Electro Chemical Research Institute	Karaikudi	Tamil Nadu	-
86	Academy of Marine Education (AMET)	Chennai	Tamil Nadu	-
87	Rajiv Gandhi National Aviation University	RaeBareli	Uttar Pradesh	-
88	Rajiv Gandhi Institute of Petroleum Technology	RaeBareli	Uttar Pradesh	-
89	Aligarh Muslim University	Aligarh	Uttar Pradesh	-
90	Banaras Hindu University	Varanasi	Uttar Pradesh	Largest Residential University in the World
91	Dr. Ram Manohar Lohiya National Law University	Lucknow	Uttar Pradesh	-
92	Central Institute of High Tibetan Studies	Varanasi	Uttar Pradesh	-
93	National Research Laboratory for Conservation of Cultural Heritage	Lucknow	Uttar Pradesh	-
94	Bhatkhande Music Institute	Lucknow	Uttar Pradesh	-
95	Indian Institute of Pulses Research	Kanpur	Uttar Pradesh	-
96	**National Botanical Research institute**	Lucknow	Uttar Pradesh	-
97	**Central Drug Research institute**	Lucknow	Uttar Pradesh	-
98	**Footwear Designing and Development Institute**	Noida	Uttar Pradesh	-

99	Govind Ballabh Pant Social Science Institute	Allahabad	Uttar Pradesh	-
100	National Institute for the Empowerment of Persons with Intellectual Disabilities	Secunderabad	Uttar Pradesh	-
101	**National Homeopathic Institute**	Kolkata	West Bengal	-
102	**Indian Statistical institute**	Kolkata	West Bengal	-
103	Indian Anthropology Survey	Kolkata	West Bengal	-
104	**India Jute Industry Research Association**	Kolkata	West Bengal	-
105	National Orthopedic Disabled Institute	Kolkata	West Bengal	-
106	National University of Juridical Sciences	Kolkata	West Bengal	-
107	Guru Ghasidas University	Bilaspur	Chhattisgarh	-
108	**Hidayatullah National Law University**	Raipur	Chhattisgarh	-
109	Indira Kala Sangeet Vishwavidyalaya	Khairagarh	Chhattisgarh	-
110	Indira Krishi Vishwavidyalaya	Raipur	Chhattisgarh	-
111	**Forest Research Institute**	Dehradun	Uttarakhand	-
112	Indira Gandhi National Forest Academy	Dehradun	Uttarakhand	-
113	Aryabhatta Research Institute of Observational Sciences	Nainital	Uttarakhand	-
114	National Hydrology Institute	Roorkee	Uttarakhand	-
115	University of Patanjali	Haridwar	Uttarakhand	-
116	G. B. Pant Agricultural University	Pantnagar	Uttarakhand	First Agricultural University of India
117	National Institute of Foundry and Forge technology	Ranchi	Jharkhand	-
118	Birsa Agricultural University	Ranchi	Jharkhand	-
119	Central Institute of Tool Design	Hyderabad	Telangana	-
120	Nalsar University of Law	Hyderabad	Telangana	-
121	Satavahana University	Karimnagar	Telangana	-
122	Institute of Chartered Financial Analysts of India	Hyderabad	Telangana	
123	National Geophysical Research Institute	Hyderabad	Telangana	-
124	Central Research Institute for Dryland Agriculture	Hyderabad	Telangana	-

125	**Centre for Cellular and Molecular Biology**	Hyderabad	Telangana	-
126	**Sardar Vallabhbhai Patel National Police Academy**	Hyderabad	Telangana	-
127	**Centre for DNA Fingerprinting and Diagnostics**	Hyderabad	Telangana	-
128	Central Institute of English and Foreign Languages	Hyderabad	Telangana	-
129	Indira Gandhi Open University (IGNOU)	-	New Delhi	Largest Open University in the world by students Enrolment
130	Jamia Millia Islamia	-	New Delhi	
131	Indian Institute of Ecology and Environment	-	New Delhi	-
132	National Museum Institute of the History of Art, Conservation and Museology	-	New Delhi	-
133	Institute of National Museum History for Art Conservation and Science Museum	-	New Delhi	-
134	Lalit Kala Akademi	-	New Delhi	-
135	National School of Drama	-	New Delhi	-
136	Sangeet Natak Akademi	-	New Delhi	-
137	Indian Standard Bureau	-	New Delhi	-
138	National Ayurvedic Institute	-	New Delhi	-
139	Lok Nayak Jai Prakash Narain National Crime and Justice Institute	-	New Delhi	-
140	Pt. Deendayal Upadhyaya Institute For The Physically Handicapped	-	New Delhi	-
141	All India Institute of Ayurveda	-	New Delhi	-
142	**Indian Institute of Foreign Trade**	-	New Delhi	-
143	Indian Statistical Institute	-	New Delhi	-
144	Central Electro Chemical Research Institute	-	New Delhi	-

Famous Books & Authors

1. Panchtantra – Vishnu Sharma

2. Paradise Lost – John Milton

3. The Golden Gate – Vikram Seth

4. Humayunama – Gulbadan Begum

5. The Dark Room – R.K. Narayan

6. The Merchant of Venice – William Shakespeare

7. Romeo and Juliet – William Shakespeare

8. The Judgement – Kuldeep Nair

9. The Origin of Species – Charles Dickens

10. Malgudi Days – R.K. Narayan

11. Discovery of India – J. L. Nehru

12. My Experiment with Truth – M.K. Gandhi

13. The Songs of India – Sarojini Naidu

14. Mein kampf – Adolf Hitler

15. Ramayana – Maharishi Balmiki

16. Mahabharta – Maharishi Vedavyasa

17. Hindu View of Life – S. Radhkrishnan

18. The Second World War – Winston Churchill

19. Mother India – Katherine Mayo

20. Anandamath – Bankim Chandra Chatterjee

21. Arthashastra – Kautilya

22. My Music My Life – Pt. Bhim Sen Joshi

23. Train to Pakistan – Khushwant Singh

24. A Suitable Boy – Vikram Seth

25. Gora – Rabindra Nath Tagore

26. Godan – Munshi Premchand

27. Poetics – Aristotle

28. The Post Office – R.N. Tagore

29. Harshacharitra – Banabhatta

30. Bachelor of Arts – RK Narayan

31. Gita Govinda – Jayadeva

32. Death of City – Amrita Pritam

33. The Idea of Justice – Amartya Sen

34. Ratnawali – Harsha Vardhan

35. Mudra Rakshash – Vishakha Dutt

36. Coolie – Mulkraj Anand

37. One Life is Not Enough – Natwar Singh

38. Five Points Someone – Chetan Bhagat

39. One Indian Girl   – Chetan Bhagat

40. Geetanjali – Rabindra Nath Tagore

41. Ain-i-Akbari – Abul Fazal

42. Akbar-Nama – Abul Fazal

42. Getting India Back on Track – Ratan Tata

43. Indian Philosophy – Dr. S. Radhakrishnan

44. Key to Health – Mahatma Gandhi

45. Ramcharit Manas – Tulsidas

46. Divine Comedy   – Dante

47. Abhigyan Sakuntalam – Kalidas

48. Wings of Fire – A.P.J. Abdul Kalam

49. Cricket My Style – Sachin Tendulkar

50. Speed Post   – Shobhaa De

51. A House for Mr Biswas – V. S. Naipaul

52. Business Speed of Thought – Bill Gates

53. Unhappy India – Lala Lajpat Rai

54. Hamlet – William Shakespeare

55. Prison Diary – Jai Prakash Narayan

56. The Test of My Life – Yuvraj Singh

57. My Truth – Indira Gandhi

58. Essays on the Gita – Aurobindo Ghosh

59. The Tunnel Time – R.K. Narayan

60. Guide   – R.K. Narayan

61. Collective Choice and Social Welfare – Amartya Sen

62. People's President : Dr A.P.J Abdul Kalam – S.M Khan

63. The Secret Diary of Kasturba – Nilima Dalmia Adhar

64. Think with Me – Subrata Rai (Sahara)

65. Indira Gandhi : A Life in Nature – Jairam Ramesh

66. Exam Warriors – Narendra Modi

67. Shape the Future – Stephen Hawking

68. Beyond the Lines – Kuldeep Nayar

69. The Accidental Prime Minister   – Sanjaya Baru

70. The Mystery of Utmost Happiness – Arundhati Roy

71. The Paradox Prime Minister – Shashi Tharoor

72. The Great Indian Novel – Shashi Tharoor

73. My Unforgettable Memories – Mamta Banerjee

74. Shakuntala – Kalidas

75. India Divided – Dr. Rajendra Prasad

76. The Satanic Verses – Salman Rushdie

77. The Golden House – Salman Rusdie

78. Waiting for a Visa – B. R. Ambedkar

79. Listening, Learning and Leading – Venkaiah Naidu

80. Moving On, Moving Forward – A Year in Office – Venkaiah Naidu

81. My Life, My Mission – Baba Ramdev

82. Why I am Hindu – Shashi Tharoor

83. The Rule Breakers – Preeti Shenoy

84. The English Teacher – RK Narayan

85. Narendra Modi : A Political Biography – Andy Marino

86. A Century Is Not Enough – Sourav Ganguly

87. An Autobiography –Jawaharlal Nehru

88. The Indian Struggle – Subhash Chandra Bose

89. My Country My Life – L. K. Advani

90. Unbreakable – Mary Kom

91. Ignited Minds : Unleashing the Power Within India – APJ Abdul Kalam

92. A Horse Walks Into a Bar – David Grossman

93. The Namesake – Jhumpa Lahiri

94. We Are Displaced – Malala Yousafzai

95. Baburnama – Babur

96. Broken Wing – Sarojini Naidu

97. Chitra – Rabindranath Tagore

98. The Life Divine – Sri aurobindo

99. Gita Rahasya – Bal Gangadhar Tilak

100. Golden Threshold – Sarojini Naidu

101. Natya Shastra – Bharat Muni

102. Tuzuk-e-jahangiri – Jahangir

103. Satyartha Prakash – Swami Dayanand Saraswati

104. Shahnama – Firdausi

105. Sunny Days – Sunil Gavaskar

106. Uttar Ramcharit – Bhavbhuti

107. Vinay Patrika – Tulsidas

108. Wake up India – Annie Besant

109. Yama – Mahadevi Verma

110. Wealth of Nations – Adam Smith

111. The race of my life – Milkha Singh

112. ACE against odds – Sania Mirza

113. Atmakatha – Rajendra Prasad

114. A Shot at History – Abhinav Bindra

115. One Life is Not Enough – K. Natwar Singh

Famous Indian Tourist Places

Place	Location	Built by
Red Fort	Delhi	Shah Jahan
Taj Mahal	Agra, Uttar Pradesh	Shah Jahan
Jaisalmer Fort	Jaisalmer, Rajasthan	Rawal Jaisal

Ruins of Hampi	Karnataka	Vijayanagar Empire
Umaid Bhavan Palace	Jodhpur, Rajasthan	Umaid Singh
Jama Masjid	Delhi	Shah Jahan
Akshardham Temple	Delhi	
Ajanta and Ellora Caves	Aurangabad, Maharashtra	Rashtrakuta Empire
Golden Temple	Amritsar, Punjab	
Charminar	Hyderabad, Andhra Pradesh	Muhammad Quli Qutub Shah
Amber Fort	Jaipur, Rajasthan	Raja Man Singh I
Mahabodhi Temple	Bodh Gaya, Bihar	
Meenakshi Amman Temple	Madurai, Tamilnadu	
Khajuraho Temples	Chattarpur, Madhya Pradesh	Chandela Rajputs
Elephanta Caves	Mumbai, Maharashtra	
Tirupati Balaji Temple	Chittoor, Andhra Pradesh	

City Palace	Jaipur, Rajasthan	Sawai Jai Singh
Sun Temple	Konark, Orrisa	Narasimhadeva I
Rani Ki Vav	Patan, Gujarat	Solanki Dynasty
Gwalior Fort	Gwalior, Madhya Pradesh	Man Singh Tomar
Bhimbetka Rock Shelters	Raisen, Madhya Pradesh	
Jagannath Temple	Puri, Orissa	Ananta Varman Chodaganga Deva
Lingaraja Temple	Bhubaneswar, Orissa	Jajati Keshari
Udayagiri Caves	Bhopal, Madhya Pradesh	Gupta Empire
Jallianwala Bagh	Amritsar, Punjab	
Lake Palace	Udaipur, Rajasthan	Maharana Jagat Singh II
Bada Imambara	Lucknow, Uttar Pradesh	Nawab Asaf-ud-Daula
Fatehpur Sikri	Agra, Uttar Pradesh	Akbar
Humayun's Tomb	Delhi	Hamida Banu Begum
The Great Stupa	Sanchi, Madhya Pradesh	Ashoka
Jantar Mantar	Jaipur, Rajasthan	Sawai Jai Singh II
Mahabalipuram Temple	Tamilnadu	Narasimhavarman I
Agra Fort	Agra, Uttar Pradesh	Shah Jahan
Nalanda University	Bihar	Kumaragupta I
Junagarh Fort	Bikaner, Rajasthan	Raja Rai Singh
Belur Math	Belur, West Bengal	Swami Vijnanananda
Akbar's Tomb	Agra, Uttar Pradesh	Started by Akbar himself and was finished by his son Jahangir

Gateway of India	Mumbai, Maharashtra	Britishers
Mehrangarh Fort	Jodhpur, Rajasthan	Rao Jodha
Munnar Hills	Idukki, Kerala	
Tughlaqabad Fort	Delhi	Ghiyas-ud-din Tughlaq
Shalimar Bagh	Jammu and Kashmir	Jahangir
Lotus Temple	Delhi	Designed by Iranian architect Fariborz Sahba
Qutub Minar	Delhi	Qutub-ud-Din Aibak
Silent Valley National Park	Palakkad, Kerala	
Gir National Park	Junagarh, Gujarat	
Dharamshala	Kangra, Himachal Pradesh	Dharamshala is the seat of the Dalai Lama and also the headquarters of the Tibetan Government in exile.
Jim Corbett National Park	Nainital, Uttarakhand	
Nainital Lake	Nainital, Uttarakhand	
Kodaikanal Lake	Kodaikanal, Tamilnadu	Sir Vere Henry Levinge
Loktak Lake	Moirang, Manipur	
Ranthambore National Park	Sawai Madhopur, Rajasthan	
Sariska Tiger Reserve	Alwar, Rajasthan	
Makkah Masjid	Hyderabad, Andhra Pradesh	Muhammad Qutb Shah
Sundarbans National Park	West Bengal	
Chota Imambara	Lucknow, Uttar Pradesh	Mohammed Ali Shah
The Great Living Chola Temples	Thanjavur, Tamil Nadu	Chola Empire

Hawa Mahal	Jaipur, Rajasthan	Sawai Pratap Singh
India Gate	Delhi	Britishers
Kumbhalgarh Fort	Rajasthan	King Kumbha
Lakshmi Vilas Palace	Vadodara, Gujarat	Maharaja Sayajirao Gaekwad
Mysore Palace	Mysore, Karnataka	Wodeyar dynasty
Chhatrapati Shivaji Terminus	Mumbai, Maharashtra	
Gol Gumbaz	Bijapur, Karnataka	Mohammed Adil Shah
Golkonda Fort	Hyderabad, Andhra Pradesh	Kakatiya dynasty
Champaner Pavagadh Archaeological Park	Gujarat	
Kashi Vishwanath Temple	Varanasi, Uttar Pradesh	Maharani Ahilyabai Holkar
Amarnath Temple	Jammu and Kashmir	
Kedarnath Temple	Uttrakhand	
Triveni Sangam	Prayagraj, Uttar Pradesh	
Naimisharanya Chakra Tirth	Sitapur, Uttar Pradesh	
Valley of Flowers National Park	Chamoli, Uttarakhand	